Chemical Week-



Higher budgets in 54, report 34 out of 38 chemical firms to p.52

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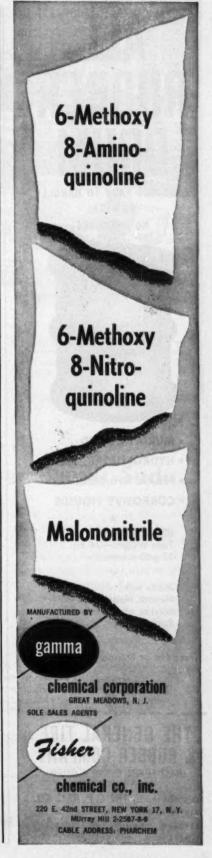
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OPINION

Redeployed Equipment

To the Editor: . . You published a brief item in your Newsletter (Nov. 28), which says that "Texas Gas Co.—formerly McCarthy Chemical Co. . . . is now liquidating its Winnie, Tex., plant facilities, selling its equipment piecemeal." There was no authority for this statement. . . .

Our plant facilities at Winnie comprise some \$35 million of investment in plants of several types, and since our new administration took over in Jan. '51, we have been busily engaged in undertaking to build up this business and not tear it down....

A copy of a brochure we issued . . . points out that we are using the equipment of the chemical plant "in the construction of other units and plants." It also states "these new units and plants will include those for the production of products not now being produced". . . .

In order that there may be no misunderstanding about the selling of equipment, the Texas Eastman Co. has just made us an offer for two or three towers on the chemical plant . . .which we immediately declined as we have other uses for the equipment . . . although they did purchase a small cooling tower which has long since ceased to be of any use to us. . . The cooling tower was not offered to them by us; they having made the offer we accepted. . . .

offer we accepted. . . .
You understand, I am sure, that all industrial plants do have from time to time, equipment which have served their useful purpose and are often sold to other plants. . . .

We have developed quite an organization which is constantly and actively involved in acquiring additional raw materials for the manufacture of our products and distribution of gas to our many customers.

RUSSELL M. RIGGINS
President
Texas Gas Corp.
Houston, Tex.

If the word "liquidate" carries a connotation that it shouldn't, we are sorry. Texas Gas in its own brochure says, regarding its large chemical plant which was shut down in February 1950: "Primarily, it will be 'cannibalized' and the equipment used in the construction of other units and plants." Perhaps "redeployed" would have been clearer all around.—ED.

Dissenter

To the Editor: I could not feel any pride in my industry when I read

(Nov. 21) that MCA has fearfully urged maintenance of high tariff walls and special protection for the chemical industry. Simultaneous endorsement of the broad ideas of two-way trade only points up the hypocrisy of MCA's position.

Certainly their action is just what everyone would expect, but current world problems will not be solved as a result of such unimaginative actions. Rather they will be solved by bold leadership in applying the principles of Christian brotherhood on a worldwide scale. . . .

GUY ERVIN, JR. Shrewsbury, Mass.

Note of Caution

To the Editor: . . . The subject of tariffs is, as you said in your editorial (Nov. 28) a matter of vital importance to all of us. And, although I have seldom agreed with all that you have said—nor do I agree completely with your most recent statement—I do flatter myself that I am broadminded enough to accept rational views . . . Your suggestion that our approach to the problem . . . and our presentations to the government and the public—must be forthright, calm, and defensible—is, in my opinion, an eminently sound one . . .

But it seems to me that you may have overlooked an important and significant aspect of this . . . and one which, I think, should be expressed . . .

There is a tendency whenever anyone is threatened—and this applies equally as much to industries as to individuals—to fight back angrily and to throw up a defense by overstating one's case . . .

That might happen in our industry—and it might have really damaging effects. If, for instance, it is not made clear that our industry is not now fearful of being bankrupted by foreign competition—but rather only fears what would happen if tariffs were indiscriminately lowered—newspaper readers could get the impression that we are on the brink of disaster...

CW welcomes expressions of opinion from readers. The only requirements: that they be pertinent, as brief as possible.

Address all correspondence to: W. A. Jordan, Chemical Week, \$30 W. 42nd St., New York 36, N.Y.



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OPINION. . .

That would be quite a shock to a Edging Up good many of the public . . .

Most chemical companies are today heavily financed by stock issues and a lot of that stock has been sold to the public in recent years . . People bought the stock because they thought that chemical concerns were big, prosperous enterprises and had a promising future . . . It is evident that that is the main reason for stock purchases-growth and gain-because dividends are not at a high rate . . .

If that faith in the future is shaken . if the public comes to take another view of our prospects because of the tariff discussions . . . we could lose a great deal . . . It's a question of emphasis stating the proposition clearly . .

> HAROLD L. ELWORTHY Buffalo, N.Y.

Technical Selling

To THE EDITOR: Your news article entitled "Distributor Rediscovered" (Nov. 21) lists several pros and cons re using a distributor.

However, when you generalize such as, "ordinarily unable to match technical service given by producer" or "usually not qualified to perform product development and highly technical application selling," we beg to take issue with you. . . .

It seems you are unfair in overlooking the growing number of manufacturers' agents or distributors who are entirely capable of handling technical problems and introducing new products. Many of these distributor organizations, such as our own, are staffed by experienced chemists and chemical engineers who frequently know much more about the industries in which they specialize than does their principal or manufacturer.

We also know of quite a large number of distributors, who, again like ourselves, maintain their own customer service laboratories, which render quick, practical help on technical problems.

In fact, with today's emphasis on technical selling in the chemical industries, the technical sales organization or distributor who is close to the customer, both large and small, frequently knows much more about the product and its application than the manufacturer whom he represents. . . .

M. W. BUDMAN Sales Manager Superior Materials, Inc. New York, N.Y.

You're quite right, Reader Budman. That's why we said, as you quote, "ordinarily," and "usually."-ED.

To THE EDITOR: . . . Cleanliness is reputed to be next to godliness . . . and, if we can take statistics at face value, they are now crowding one another closer than they were . The gain is at least a snug 20% for cleanliness-if not more . .

Look at these figures: the value of synthetic detergents produced in Canada in 1952 was \$21,382,000; the total value of soaps made was \$39,675,-000. In 1948 the comparable figures were \$7,738,000 and \$44,045,000.

This adds up to a 20% increase in total outlay by the public in four years . . . and let's consider this: the soap operas stress the greater efficacy of synthetic detergents-they're all "new and improved". . . and we know that there has been a good deal of technological progress in the formulation of synthetics, new phosphate builders, use of carboxymethylcellulose, optical bleaches and so forth . . .

So, in theory at least, the same cleaning can now be done with less detergent . . . consequently, consumption should have been reduced per cleanee . .

Perhaps it is that some of the newer products pour more easily . . . and many people consequently overpour . .

In any event, I am sure that Canadians are not 20% cleaner; they couldn't be . . . nor are there 20% more of them . . .

I draw no conclusion-I just point out, with tongue-in-cheek, this curious and thought-provoking fact . . .

> PAUL R. NEWTON, Ottawa, Canada.

AHEAD

Commercial Chemical Development Assn., winter meeting, Statler hotel, St. Louis, Mo., Jan. 19.

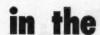
Assn. of American Soap and Glycerine Producers, annual meeting, Waldorf-Astoria hotel, New York, N.Y., Jan. 26-28.

Drug, Chemical and Allied Trade Section, New York Board of Trade, annual dinner, Waldorf-Astoria hotel, New York, N.Y., March 4.

Chemical Institute of Canada, division of organic chemistry's third symposium, McGill Univ., Montreal, Ont., March

American Chemical Society, division of rubber chemistry, 65th meeting, Brown hotel, Louisville, Ky., Apr. 14-16.

Assn. of Consulting Chemists and Chemical Engineers, symposium and banquet, Belmont Plaza hotel, New York, N.Y., Apr. 27.



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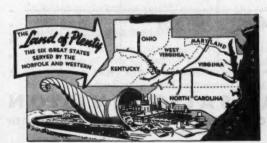
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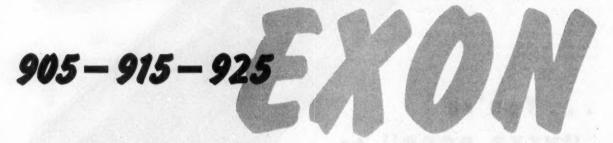
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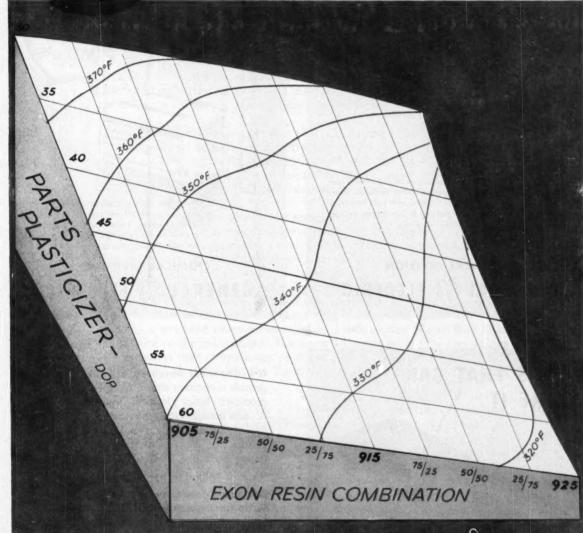
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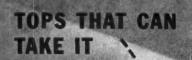
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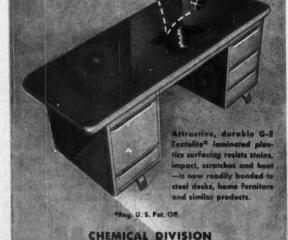




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NEWSLETTER

The approach to tariffs proposed by the Manufacturing Chemists' Assn. (CW, Nov. 21) was blasted last week by ultraprotectionist Nevada Sen. George Malone as "a very clever statement" that dodges the real issues.

The comment came during the senator's questioning of MCA President William Foster. Malone, as a one-man Senate subcommittee, is ostensibly gathering testimony on mobilization needs for strategic materials. He seems much more interested in developing a case for increased tariffs.

The association's position that any future adjustment of chemical tariffs should be made on an individual product or product group basis did not satisfy the senator—nor did Foster's plea that MCA, as a chemical association, is not qualified to discuss tariffs on other types of items. Sniffed Malone: "So you'd give chemicals protection and sell the others down the river."

Malone, a maverick even among high-tariff men on Capitol Hill, terms the State Department "sole custodian" of U.S. trade policies. Congress, he feels, should assert direct control, determining tariffs only on economic grounds; tariffs should not be a part of U.S. foreign policy.

Imports of German star sapphires and rubies came under scrutiny by the Tariff Commission this week. Linde Air Products Co.'s appeal for a flat ban on all imports charged that the German stones are being made by a patented process developed by Linde during World War II at the request of the government. The imported gems, selling for two dollars less per carat than domestically produced stones, would constitute "unfair competition" as defined in the Tariff Act of 1930 if Linde's argument is substantiated.

Another invitation for private industry to come aboard has been extended by the Atomic Energy Commission, but so far no chemical company—not even atom-ardent Monsanto—is standing in line to buy tickets.

Tentatively, AEC has set a Feb. 15 deadline for entertaining offers from industry to participate in the more conventional parts of the proposed atomic power plant, and operation of both the plant and the reactor.

Conjecture that this might be what Monsanto—long keen on the idea of a dual-purpose reactor producing both power and isotopes—was waiting for was squelched by Philip Powers, executive administrator of that firm's atomic electric study. Said Dr. Powers: "Even if we were interested in power only, we would choose a different type reactor, more suitable for industrial use."

Up to this week, the closest thing to a proposal for a private industry-AEC operating partnership on atomic power came with the filing in nine Midwest states of incorporation papers for Nuclear Power Co., to be jointly owned by four power companies and an engineering firm. The papers are being filed "against the possibility that we may be interested in construction of a nuclear power plant," said J. W. McAfee, president of Union Electric Co. of Missouri, one of Monsanto's former study-team partners.

First big business casualty of the recent election in the Philippines is the \$15-million Rayon Corp. of the Philippines—brainchild of J. Amado Araneta, treasurer of the beaten Liberal Party (CW, May 9). Scarcely 24 hours after the election, Araneta pulled out, gave notice that he will ice the project "until the incoming administration policies become clear."

Involved in the technical end of the project, officers of Oscar Kohorn & Co., Ltd., New York, have similarly retreated. Reputable sources report the American firm has already plunged more than \$100,000 into the venture, was to have anted up considerable additional capital.

Meanwhile, bagasse (sugar-cane waste) is clogging up the yards of Araneta's Ma-ao sugar warehouses; application has been filed to reduce the company's authorized capital to \$50,000. More important: construction work on the plant, touted as being a "shot in the arm" for the Philippine economy, has come to a standstill.

"Neither Du Pont nor any other American firm . . . should be punished for its success." That's the gist of U. S. District Judge Paul Leahy's decision in dismissing the government's suit charging a cellophane monopoly. Coming 11 months after a marathon two-year trial, the decision points out that "there has been no monopolization or conspiracy or combination or attempt to monopolize shown."

General Aniline & Film moved a step closer to the auction block last week as U. S. District Court Judge David Pine set a March 31 deadline for all minority stockholders in the Swiss holding company, Interhandel, to press their claims. By that time they must either come into court, declare who they are and how many shares they hold, or else be forever barred from collecting a dollar's worth of GAF assets.

The action permits the Justice Dept. to weed out minority claims without waiting until Interhandel's own claim works its tortuous way to the U. S. Supreme Court. Interhandel lost its case, is delaying its appeal until Judge Bolitha Laws hands down his final order. Government attorneys figure that litigation over the appeal could take another two years. Then, if the 800 or 900 minority stockholders asserted their claims, disposal of them might well take another two years.

Instead, the minority claims and Interhandel's claims will be settled concurrently, and the government hopes to put GAF up for sale the day after Interhandel loses in the top court.

In another legal maneuver, the Justice Dept. is seeking to block the proposed merger of Novadel-Agene and Wallace & Tiernan. A motion to enjoin the merger will be heard in Rhode Island's U. S. District Court early next week. Justice wants to block the merger because of antitrust litigation pending against the two firms since 1946.

The chemical process industries are the target of a recommendation by the technical committee of Los Angeles' Citizens Smog Committee: "Investigate the feasibility of reducing or relocating and curtailing future expansion of air-polluting industries such as petroleum refining."

Californe means business. The privately endowed Air Pollution Foundation said less week that it's prepared to spend \$1 million a year for the next five years to study southern California's smog problem.

. . . The Editors



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Here's impressive proof.

The rubber tile floor covering pictured above was installed in 1951. It shows no sign of wear-despite what Dennison company officials describe as "extremely severe conditions". Half-ton truck loads roll over it.

Heavy cases are dragged between departments. Foot traffic is unusually heavy. Mailing machines for a nation-wide mailing service operate here. Yet the tiles show not the slightest sign of wear!

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Tensile Strength (psi)	7700
Elongation %	2
Hardness (Shore D)	over 80
Specific Gravity	1.04
Dielectric Const. (1-1000 K.C.)	2.4 - 2.6
Power Factor % (1-1000 K.C.)	0.2 - 0.5

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BUSINESS & INDUSTRY

Business Fair, Congress Warmer

It was only last week that Pres. Eisenhower set up a five-man advisory committee on weather control, and now—Dec. 17 to 19—the President is meeting with Republican Congressional leaders to work out a GOP legislative program to create a favorable climate for business.

Much of the legislation under discussion at the White House this week is of vital concern to the chemical process industries: corporate tax reductions, excise tax changes, Taft-Hartley amendments, minimum wage increase, drug regulation, antitrust procedures, and the touchy topics of tariff and of customs simplification.

Bills on these subjects make up a big part of the workload that'll confront the 83rd Congress when it returns to Washington for its second session, beginning Jan. 6. Talks with principal GOP solons like Sen. William Knowland and Rep. Charles Halleck, majority leaders in the two houses (see cover), will help Eisenhower draw up his recommendations on these matters; as always, what the President asks for depends to a degree on what he feels he can get.

Tariff Action Certain: About as controversial as any legislation, but sure to be acted on, will be a bill to extend and amend the Reciprocal Trade Agreements Act, which expires next June 12. On tariff questions, Eisenhower will get suggestions from the 17-man Randall commission, which is being accused of low-tariff leanings. That alleged bias has prompted O. R. Strackbein, of the high-tariff Nationwide Committee of Industry, Agriculture & Labor on Import-Export Policy, to demand the resignation of commission Chairman Clarence Randall, Chicago industrialist. (Strackbein's group has a heavy chemical company membership. Latest chemical recruit is Monsanto, which last month severed ties with NAM and the U.S. Chamber of Commerce over tariff policies.)

Randall's strategy, apparently, will be to come up with a report (due about Mar. 1) that will combine dissent to the high-tariff extremists among commission members. In particular, Randall's anxious to get Sen. Eugene Millikin (R., Colo.) to sign the majority report; otherwise, he fears, the commission's recommendations would come a cropper.

Compromise on Taxes: The administration will resist any cut in the corporate tax rate, scheduled to drop from 52% to 47% next Apr. 1. There'll be a fight on this, with Congress eager to give taxpayers some relief. Best prospect now is a 50% compromise.

The Treasury Dept. also wants to postpone all scheduled reductions in excise taxes, and again Congress will resist. The tax-writing Congressmen seem determined to redistribute the excise tax load, whether they lower the total take from it or not. Chairman Dan Reed of the House Ways & Means Committee is intent on pushing through an income tax bill that would allow more liberal deductions.

Dixie Wage Scrape: Southern employers are registering strong opposition to raising the minimum wage level, but it looks as though Congress will go ahead and up the level to \$1/hour from the present 75¢ rate.

On Taft-Hartley, GOP leaders on Capitol Hill would prefer to let proposed amendments languish in committees, but the Administration feels committed to push for revision. If the labor law comes onto the floor in either house, liberal Democrats likely will offer amendments that will gut the present act.

Full-scale overhaul of the antitrust setup probably won't come before 1955, but Antitrust Chief Stanley Barnes is expected to ask Congress for power to subpoena company records and officials, making it easier to get evidence. Also tending to sharpen the government's antitrust teeth: a bill (already passed by the House) to raise the penalty in criminal cases from \$5,000 to \$50,000; and legislation to upset the Supreme Court's decision on meeting competition in "good faith" in the Standard Oil of Indiana case.

Interindustry Blockades: On some pending bills of chemical import, Congressional action is blocked by disagreements among various industrial groups concerned. However, the Miller pesticide bill may get through, having the blessing of the National Agricultural Chemicals Assn. and the Food & Drug Administration; and

there's chance that both food and chemical interests can get together on a food additive bill, such as the one to be introduced by Rep. Joseph O'Hara (R., Minn.).

There'll be a move, sanctioned by the new Dept. of Health, Education & Welfare, to broaden FDA's inspection powers, particularly in the direction of drug prescription files. Opposition from the potent retail druggist lobby is predicted.

Odds are that the chemical industry stands to hold its own or gain minor improvements in economic status during Congress' 1954 deliberations.



ICWU'S BRADLEY: Back in harness.

Quick Convalescence

Companies that have collective bargaining dealings with the International Chemical Workers Union (AFL) can figure that this union will be a stable entity at least until its convention in Chicago next August, despite some internal quibbling.

Symbol of ICWU's new lease on stability is the union's founder, H. A. Bradley, who this week is back in office as president after a heart attack that required six weeks' hospitalization. Bypassing the usual period of convalescence, the veteran unionist recovered rapidly, convinced his executive board that he's raring to go.

More and Heavier Guns

The salvo of shots fired by the Manufacturing Chemists' Assn. at the idea of a general reduction of U.S. tariffs (CW, Nov. 21) now has been followed up with an even heavier cannonading by the Synthetic Organic Chemical Manufacturers Assn.

In a 231-page statement to the bipartisan Randall Commission on Foreign Economic Policy, SOCMA not only blasts at tariff-cutting as a "disastrous experiment" that would hurt this nation's security program and its domestic economy; the association also goes to the trouble of making contructive suggestions for achieving the goals of U.S. foreign policy.

By way of making its position abundantly clear, SOCMA summarizes: "The tariff protection embodied in the (Smoot-Hawley) Tariff Act of 1930 must continue to be an essential part of our national policy if the synthetic organic chemical manufacturing industry is to continue the outstanding rate of expansion that experience proves to be vital to our national welfare and security."

Agreement of Goals: SOCMA is sympathetic with the major objectives the President and the Congress had in mind when the Randall group was commissioned to make its foreign trade study, but feels that slashing customs rates won't help the country attain those goals. Instead, the association recommends:

More liberal use of Trade Agreements Act authority to equalize trade opportunities with countries that restrict imports from the U.S.

Encouragement of private investment abroad by Americans.

 Possible increase in capitalization of the Export Import Bank to \$5 billion and extension of its lending authority.

 Possible establishment of an international finance corporation to provide equity capital for projects in underdeveloped areas.

Tariff reduction, SOCMA asserts, is less useful in helping friendly nations than three other assistance policies: grants in aid, improved terms of trade, and foreign loans.

Double Danger Seen: The report's economic section, authored by Dean Arthur R. Upgren of Dartmouth's School of Business Administration, a former Federal Reserve economist, warns that talking about tariff cuts as a means of helping other nations through "trade, not aid" would be "a cruel deception, because they would not begin to accomplish their proclaimed objective."

Noting that the industrial economies of Western Europe and of the U.S. are not complementary, Upgren thinks that "continued long-range improvement in the economic strength of Western European nations lies in the restoration of multilateral patterns of trade rather than in the continued effort to impose a bilateral character upon U.S. trade."

In fact, Upgren reasons, it's as likely as not that trimming tariffs would hurt domestic industries without helping foreign economies. He says that tariff reduction could—in the long run



DARTMOUTH'S UPGREN: World economist warns of "cruel deception."

-destroy part of some protected industry and thereby give a new market to foreign producers, but that the "long run" may be so long as to make tariff reduction ineffectual as a now-needed foreign aid.

Staving Off Ruin: Cutting tariff rates, says Upgren, is like cutting prices on imports. A U.S. company pressed by resulting tougher competition from abroad can hold on to a slice of the domestic market by:

Dropping research and development programs.

Making other products bear the cost of losses on underpriced products.
 Covering operating losses with

capital funds.

These temporary expedients can postpone, but not prevent, the closing of companies shouldered out of the competitive running.

Upgren denounces the proposal that U.S. concerns endangered by imports be kept affoat by government

subsidies, says it's "a move that, if successful, would accomplish only at great public expense what the tariff [now] accomplishes without such expense." The subsidized industry then would absorb tax revenue, instead of contributing to the public purse. Also, he adds, experience with U.S. subsidies has been "unhappy."

What SOCMA Favors: Citing the Congressional requirement that the Randall commission's recommendations—which are to go to the White House next March—must be consisten with national security and a strong domestic economy, SOCMA calls for strengthening present tariff laws.

For one thing, the association urge that Congress make binding on the President the Tariff Commission' findings in peril-point and escape clause proceedings under the Trade Agreements Extension Act of 1951 Also, says SOCMA, the "injury test in those proceedings should be broadened to apply to manufacturing that contributes significantly to national defense, national economic strength, or national health. Still another desired amendment to this law: definition of a decline in the proportion of the domestic market supplied by domestic producers in constituting evidence of injury.

SOCMA wants section 337 of the Tariff Act amended to require the Tariff Commission to investigate an unfair practice upon the filing of a sworn complaint by a domestic producer; wants the injury test recommended for peril-point and escape clause proceedings to be copied in the Tariff Act and in the Antidumping Act; and is asking for a procedure that would permit key defense items to be kept out of trade concession agreements. The association opposes new valuation proposals such as those in H. R. 6584 (see p. 28).

In short, SOCMA tells the Randall commission, the dislocation caused by reduced tariff production would force the synthetic organic chemical industry to curtail its \$204 million/year research program, halt its multimilion-dollar expansion plans, and cut back production, with resulting low

wages and layoffs.

And it appears that SOCMA's ideas will get careful consideration from Congress. At the organization's annual meeting last week, when Cary R. Wagner of Phillips Petroleum Co. was re-elected president, guest speaker Styles Bridges, president pro tempore of the U.S. Senate, assured members that he would oppose any relaxation of tariff barriers that would encourage unfair competition as a result of lower European production costs.

Overflowing into World Markets

When New Year's bells chime in Warsaw this year, economics-minded Poles may well raise a toast to their sprightly young chemical industry. Not only have production quotas been met, it is claimed, but progress has been so good that exportable surpluses of products ranging from benzol and naphthalene to dyes and pharmaceuticals are now available.

Taking 1938 (the last peacetime year) as an index (100), this year's production stands at 518—an advance unmatched by any other industrial branch in Poland. Over all sways the all-powerful hand of the government; all plants still operate under state control, work on tight government-set production timetables.

But spectacular as the spurt upward has already been, observers within Poland itself say world markets have as yet had but a taste of what's in store for them when facilities now under construction get rolling. Now reported near completion:

• A nitrogen plant, near Kedzierzyn, due to produce greater quantities of nitrogen per year than the combined total of all units now in operation in Poland. Actual construction work, say reports seeping through the Iron Curtain last week, is virtually finished; great attention will be paid to turning output to use in nitrogen fertilizers—ostensibly to increase agricultural production for Poland's multiplying population.



SILESIA STEEL MILLS: New coking batteries . . . on every hand.

• To insure adequate sulfuric acid all around, Polish authorities brought in a plant near Wizow in 1951 using anhydrite as a raw material. Now, a similar enterprise is simmering near Lesko, said to be using gypsum as a starting point. Production is slated to begin early in 1954; the combined total output of Wizow and Lesko will surpass the sum of the output from all other sulfuric acid plants now extant in Poland.

 The soda industry—not to be outstripped—is building a big plant near Inowrocow, will turn out caustic and chlorine, as well as a wealth of related products.

• Two combines—in production the past weeks—will soon be supplying all home requirements of most organics. One—located at Oswiecim, uses natural gas, produces intermediates; the other (formerly the German firm Oder Werke) is turning out exportable organic end products.

• The artificial fiber plant owned and operated by the government at Gorzow (and finished in 1951) has just gone through a general reorganization-expansion shuffle, should not only get higher yields next year, but also (more important) make better use of various sideline derivatives.

 Wood-processing facilities have been enlarged in recent months; Poland's biggest cellulose plant, at Niedomice, now virtually supports a booming rayon industry.

• Pharmaceuticals have made striking strides. Production in 1953, at worst, will be seven times greater than the 1949 production level. Today, major products made in Poland for the first time include antibiotics, anti-T. B. drugs, penicillin.

Toting Up Averages: In general compared with production rates just four years ago, Poland is now turning out 3.4 times more nitrogen fertilizer; 3.0 times more phophorus fertilizer; 11 times the amount of pesticides and insecticides.

Also ticketed for expansion early next year are plants to produce synthetic fuels, lubricants, synthetic rubber, fat-acids—and "other semifinished products derived from coal and acetylene." The artificial resin industry, if on schedule, should chalk up a 20-fold volume increase over 1949, the rubber industry fourfold, paint and enamel eightfold, the next score of months.

It all adds up to quite a flood on the world's chemical markets, and stiff



TARNOW NITROGEN: Dzierzynski ammonia plant . . . one of the country's largest.

competition to exporting American firms. Among Poland's inorganic products now available abroad: caustic soda, calcium chloride, alum, and arsenic. Classed as "exportable organics": dyes, beta-naphthalene, formalin, gamma-acids, H-acids, benzidene, aniline oil, paranitroaniline, turpentine, etc. Among the coal derivatives listed as available for export: benzol, naphthalene, etc. The range of pharmaceuticals is broadest of all, includes both bulk and packaged products.

Making the most of its newly acquired chemical wealth, Poland (through its government) today quite obviously is making a big play for world sentiment. Help to Korea has been eloquently offered—with an eye to propaganda value—and subsequently sent in the form of drugs, medical supplies. Warm approval is said to have sprung up throughout the country as a result; community and industrial groups alike are reported to have pledged even greater outputs as a token of their personal interest in Korean reconstruction.

On the other side of the fence, the total volume of trade between Poland and the Chinese People's Republic is now six times higher than in '50.

The impact on U.S. manufacturers can't be reckoned as yet, but before the chimes welcome 1955, Poland's chemical industry seems slated to make itself known beyond the boundaries of Europe.

EXPANSION . . .

Nylon: The Chemstrand Corp. has put part of its nylon manufacturing facilities in Pensacola, Fla., into operation "for testing and further training of personnel." Plans call for initial production in fiber spinning operations, later operation of chemical intermediates facilities. All units should be under way within the year, say company officials.

Adhesives: Polymer Industries, Stamford, Conn., will open a plant early next year to increase by half its current production of industrial adhesives and textile chemicals. The new facilities will serve to consolidate Polymer's Astoria and Brooklyn, N.Y., operations, should get into full production within a matter of weeks.

Organic Peroxides: Production is expected to start in about a week at Novadel-Agene Corp.'s Lucidol Div. plant being built outside Geneseo, N.Y. The new plant, estimated to cost over \$500,000, replaces one in the town of Tonawanda, leveled by explosion in Sept. (CW, Oct. 3). Six-

teen buildings have been constructed on the 280-acre site. When production begins, the plant's initial output will be flown out of Buffalo in special planes.

Fertilizer: Chillicothe Chemical Manufacturing Co. is planning to build a \$17-million fertilizer plant near Chillicothe, in Hardeman County, Tex., designed to turn out 30 tank cars of anhydrous ammonia daily. Construction will begin in 1954, is expected to be completed sometime in 1955.

Organics: Structural steel work has finally been started on Du Pont's \$4-million organic plant under construction outside Beaumont, Tex. Work (originally started last spring) was delayed by area strikes by carpenters, structural steel engineers, other labor groups. Wary company officials, however, now will risk no estimated date of production, hope "all steel will be in the air within three weeks."

Nickel Sulfate: Republic Chemical Corp.'s nickel sulfate plant at Curtis Bay Md., is nearing completion, will be in production by early January. Output: 4 million lbs. nickel sulfate annually, tagged for use in tallow and oil refining, ceramics, textile industries.

COMPANIES

Transfer of Heyden Chemical Co.'s Antibiotic Div. (including a 40-acre plant at Princeton, N. J., and patent and processing rights relating to the manufacture of antibiotics) to American Cyanamid Co. has been completed, (CW, Nov. 14) will be managed by Cyanamid's Lederle Laboratories Div. The acquisition, say company officials, serves to launch Cyanamid into production of penicillin, streptomycin, dihydrostreptomycin, and neomycin, may lead to further expansion into the pharmaceutical field.

Semet Solvay Div., Allied Chemical & Dye Corp. has put a new battery of coke ovens and by-products facilities into operation at its plant at Ashland, Ky. The ovens have a rated annual capacity of more than a million tons of coke.

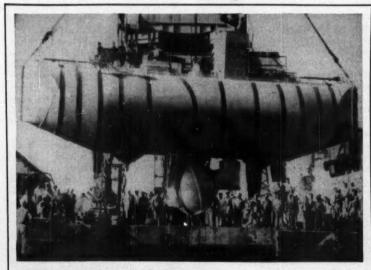
Mathieson Chemical Co. has received sufficient tenders to acquire 50% of the capital stock of Reaction Motors, Inc., Rockaway, N. J.—builder of liquid fuel rocket engines. As a result, Mathieson hopes to complete purchase of the shares by Jan. 15—at \$16/share.

Food Machinery & Chemical Corp's Westvaco Chemical Div. is going to split into two separate operating divisions—one to handle chlor-alkali products, the other to take care of mineral products.

Mearl Corp., New Rochelle, N. Y., has purchased a tract of land at Moss Landing, Calif., as site of a new plant to manufacture emulsion stabilizers and biochemicals. Construction work is expected to get under way soon after the first of the year.

Kentucky Synthetic Rubber Corp. plans to submit a bid to buy the Louisville, Ky., plant it now leases from the government—one of the 27 synthetic rubber plants now up for sale. Another Louisville plant on the list, leased by Carbide and Carbon Chemicals Co., has been shut down for some time; and company officials have made no move either to buy or re-lease it.

Sohmer Tube Co., Inc., chemicals, has filed a charter of incorporation in Dover, Del., listing 100 shares of stock, no par value.

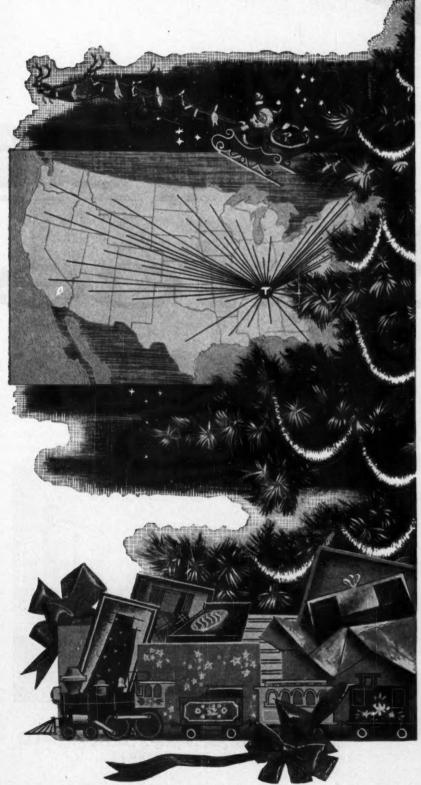


2,170-Fathom Resins

CREDIT IN PART for the recent record descent of Professor Piccard—4,000 meters below the surface of the Mediterranean—goes to Ciba's Araldite resins, said to have solved one of the trickiest problems of power cable installation. In Piccard's previous bathyspheres, all motors were controlled through relay circuits; relays were

installed outside the cabin and only small wires were able to pass through the walls. By pouring the resin between the walls of the sphere and the cables in this latest model, however, Piccard was able to get use of full-size power cables carrying up to 200 amps.—at far greater depths than heretofore possible.

THERE'S A TOUCH OF TENNESSEE IN MERRY CHRISTMAS



In Dad's necktie, in Mother's handbag, in Junior's socks, in Sister's compact, in Baby's toys.

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a Merry Christmas
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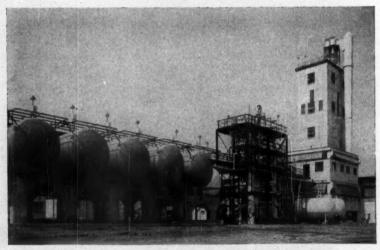
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BUSINESS & INDUSTRY





PEDRO DE VALDIVIA: Workers arrive 30,000 strong to mine nitrates 5,000 ft. above sea level.

Valley of the Moon

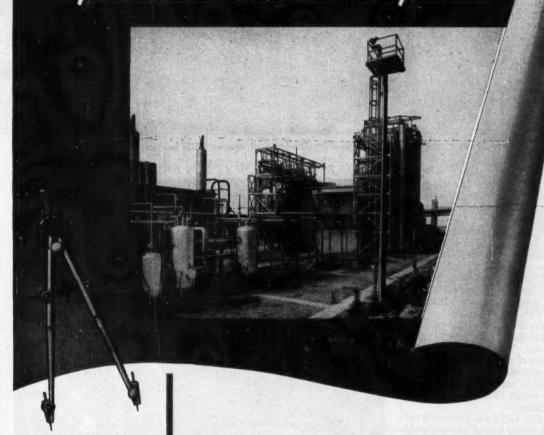
With fertilizer one of the accepted keys to reconstruction in Korea, attention once again focuses on Chile, major producing country with an exportable surplus of nitrates. There's no doubt of the real need for fertilizers in Korea today; just as little doubt remains in the minds of observers that the current hassle over "who's to build and where" will effectively block anything constructive being done in the months ahead (CW, Oct. 17).

To tide Koreans over the arbitration period, the United Nations Korean Reconstruction Agency (UNKRA) has looked carefully at all producing countries, finds Chile way out ahead in excess of production over consump-



TRAINED OUT: Loosened rock is hauled to crushers for processing and transportation to Pacific seacoast ports.

Naphtachimie in production with new SD process



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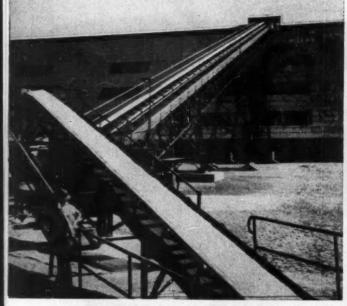
Their services are available to you, on a confidential basis, on any problem involving a process of your own, or one to be procured or developed.

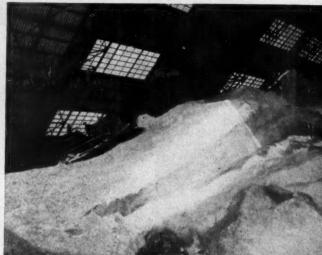
SCIENTIFIC DESIGN COMPANY, INC.

Engineering Offices: Jersey City, New Jersey



BUSINESS & INDUSTRY





OUTPUT STEADY: Long the world's greatest deposit of natural nitrates, Chile produces 235,000 tons/year.

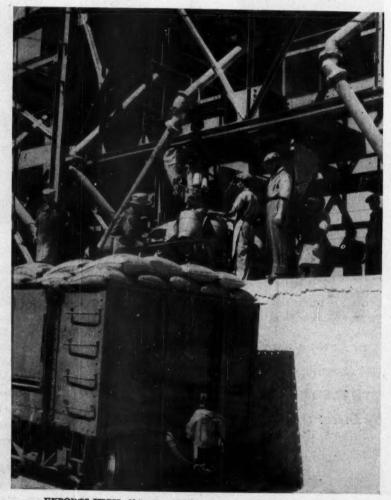
tion of nitrates. Latest figures predict that of this year's world exportable surplus of nitrogen fertilizer (some 1,072,000 metric tons), Chile has close to 21.1% (226,000 metric tons).

For Chilean producers, the spotlight's not new. Before World War I, Chileans enjoyed a virtual monopoly in world nitrogen markets, were supplanted only by Germany's frantic bid to supplant natural nitrate supplies with fixed-nitrogen capacity when shipments were shut off by an Allied blockade.

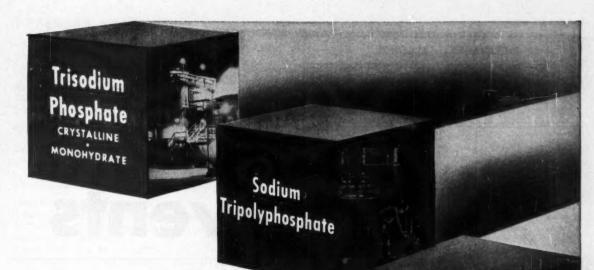
Between World Wars I and II, perfection of the Haber-Bosch process with modifications led to construction of synthetic ammonia plants thoughout the world; Chile's dominant position declined.

By 1950, Chile was producing only 243,000 metric tons of nitrogen yearly—running behind the United States (996,000), West Germany (464,677), Japan (414,595), Great Britian (275,000) and France (259,030). Surplus available for export, however, was another question altogether. Of all the top producers, Chile alone had an overabundance, could substantially increase production with little effort.

To UNKRA administrators, this spells the logical answer to a very thorny problem. The current squabble between the Korean Prime Minister's Office of Planning and all the various Allied and UNKRA officials in the field seems a sure bet to drag on for some time; meanwhile, Koreans must eat. Thus, Chile's surplus (though partly consigned to other consuming nations) may prove to be a veritable life-saver.



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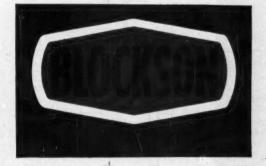


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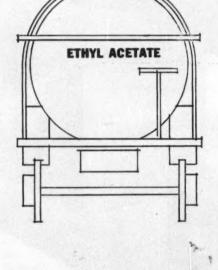
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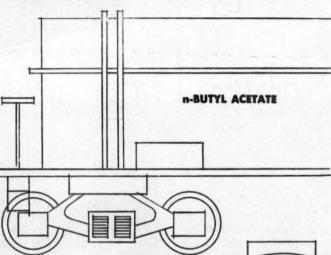
2-ETHYLHEXYL ALCOHOL

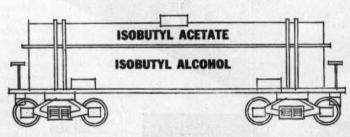
2-ETHYLBUTYL ALCOHOL

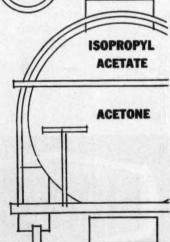
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STILL ON THE BOOKS

(RFC loans to chemical	companies o	utstanding as	of Dec. '53)		
Company and Location	Year Authorized	Maturity Date	Amount Authorized	Rate	Outstanding Balance
Adams Carbide Corp., Harrison, N. J	. 1952	1963	\$615,000 (572,789*)	5%	\$42,210
Brush Beryllium Co., Cleveland	. 1951	1962	800,000 (112,891*)	5%	687,108
Carthage Hydrocol, Inc., New York	. 1946	1959	9,000,000	4%	8,475,000
91 99 99 99 19	. 1948	1955	3,500,000	4%	3,275,000
" " " " " "	. 1949	1959	6,000,009	4%	5,998,595
Detroit Chemical Works, Detroit		1963	350,000 (350,000*)	5%	
Glass Fibers, Inc., Waterville, O	. 1950	1958	2,500,000	4%	1,916,498
Kentucky Chemical Industry, Inc., Cincinnati, O	. 1950	1955	750,000	4%	422,980
McPike Drug, Inc., Kansas City, Mo	. 1950	1957	700,000	4%	269,800
Pantasote Co., Passaic, N. J	. 1950	1957	700,000	4%	552,166
Plastic Film Corp., New York**	. 1946	1955	600,000	4%	214,012
Southwest Fertilizer & Chemical, El Paso, Tex	. 1952	1957	312,083	5%	277,083
Thiokol Chemical Corp., Trenton, N. J		1960	900,000	5%	701,970
Vitro Chemical Co., Salt Lake City		1958	850,000	5%	620,984
Woburn Chemical Corp. Harrison, N. J	. 1949	1958	500,000	4%	122,738
n n n n n n n		1958	175,000 (60,000*)	5%	115,000

* Undisbursed amount.
** Wm. Iselin & Co., New York, participates in 65.4% of this loan.

The Bankers Take Over

Exotic words are still being coined in Washington, though perhaps less frequently than during the Roosevelt era; latest example is "reprivatization," which you might take to be a new Army term for demotion of a wayward corporal.

Actually, it's a way of summarizing the Reconstruction Finance Corp.'s Republican-inspired plan to switch all loans still on the RFC books into the hands of private bankers. Among the biggest of these loans are 16 made to chemical companies, all of \$200,000 or more (see table).

Now that the RFC is going out of business, will those concerns start a frantic scurry to find new lenders? Will it mean that some banks or investors may buy up the loans at, say, 50¢ on the dollar? Not on your life, assures RFC Administrator Kenton Cravens, who maintains that "a high percentage of these loan assets . . . are good credit risks." While RFC is turning on the salesmanship, hoping that bankers will recognize the soundness of the loans and take them off the government's hands, it stresses that there won't be any fire-sale bargains.

No New Loans: Having put out some \$10 billion in loans during its 20-year existence, the depression-born RFC now is busy trying to close out all its accounts before the June 30 deadline set by Congress for ending the agency. Since Sept. 28, RFC hasn't had power to make any new loans, although it can still hand out

undisbursed portions of previously authorized loans. In the future, companies may apply to the Small Business Administration for loans of up to \$150,000; larger loans can come only from nongovernmental lenders.

With all "new business" prohibited, primary interest at RFC these days is in liquidation of the \$1.1 billion worth of loans outstanding. RFC has had its field men checking into the standing of the different borrowers to get current facts on company operations, with which to brief prospective lenders on the values of the loans.



RFC'S CRAVENS: For RFC borrowers, a painless transfer to private credit.

RFC hopes that on the basis of past records—about 90% of the agency's borrowers pay their installments on time—bankers will be willing to take over the loans. If RFC doesn't find private takers, the law provides that any loans still outstanding next June 30 will be turned over to the U. S. Treasury, which will accept payments on the RFC schedules.

Biggest Chemical Loan: Principal chemical client of RFC has been Carthage Hydrocol, which borrowed \$17.5 million to get into the business of making alcohols, aldehydes, ketones and other petrochemical products. This loan has been considered a higher-than-normal loan risk, but indications that Standard Oil (Indiana) subsidiary Stanolind may take over the plant may make this loan more attractive to bankers. Too, there'd be a chance that Standard could renegotiate the loan at a lower interest rate.

And what of the chemical loans in the below-\$200,000 category? RFC hopes it can arrange some state bank pools to take over those risks. In New York, for example, are 130 borrowers (not all chemical) whose total debt to RFC is \$5 million—certainly a small amount compared with all the commercial loans in that state.

For the chemical industry as a whole, the passing of RFC won't cause much of a flurry. In raising many millions of dollars for expansion and for replacement of old equipment, chemical companies generally have spurned Washington in favor of private enterprise sources.

Scare on Imports

The uneasy feeling of a man on stilts when he notices termites milling about under either stirrup is somewhat akin to the apprehension with which some U.S. chemical companies view H.R. 6584, a tariff bill coming up in the Senate after Congress convenes next month. It's the revised bill authored by Rep. Thomas Jenkins (R., O.).

That bill, which was passed in the House last summer and which is sure to receive some support in the Senate, is regarded by some observers as a kind of "opening wedge" that might lead to an attack on the "American selling price" system of calculating duties on imported coal-tar products. Immediate effect of the bill would be to end the use of "foreign value" in reckoning import duties and use instead export value, or certain other values if the export value can't be determined.

Several new terms are defined in the Jenkins bill, including "export value," which would be the principal basis for figuring duty on all imports except coal-tar chemicals and other specified products. Export value is spelled out as the price, at the time of exportation to the U.S., at which the merchandise or similar goods were sold or offered for sale, in wholesale lots for export, in the exporter's own country.

The currently used "foreign value" is the domestic, rather than the export, wholesale price at which a product is offered for sale in the country from which it's being shipped.

Four Alternatives: If the Customs inspectors can't decide what figure to put down as the export value on an import, they would be given four alternative basing systems under the Jenkins bill, to be used in this order of preference:

"U. S. value"—price at which such imported merchandise is freely offered for sale in principal U.S. markets, making allowance for usual commission, transportation costs, insurance fees, customs duties.

"Comparative value"—the equivalent of export value, as nearly as may be determined by the appraiser, on the basis of export or U.S. value of other merchandise exported from the same country at the time of shipment.

 "Constructed value"—the sum of the cost of materials and cost of manufacturing such merchandise at a time prior to exportation of the goods, including overhead expenses, cost of containers, and profit.

 "American selling price"—price at which such articles are freely offered for sale in the U.S. in usual wholesale lots, including cost of packing but excluding any production or exportation tax imposed by the country of origin.

"Comparative value" and "constructed value" are both coined terms, devised to help smooth out U.S. customs procedures and to trim the number of cases in customs court. These values and the export value are expected to be much easier to determine than "foreign value."

Pressure from the chemical indus-



OHIO'S JENKINS: His import valuation clause heads for a showdown.

try was largely responsible for getting that clause deleted from the customs simplification bill that was passed during the 1953 session (CW, Aug. 22). Instead of giving up on that part of his original bill, Rep. Jenkins picked up the pieces scissored out by the Senate finance committee, pasted them together to form the bill now pending.

Showdown Avoided: It's hard to tell how the Jenkins bill will fare in the coming Congressional session, as the valuation clause never came to a showdown last session. Even in the Senate committee there wasn't a real test of strength; opposition to the valuation clause developed during the last few days of the session, and Senators favoring that clause didn't fight for it, fearing the entire customs bill would be shelved if a long wrangle developed.

Partisans of a freer trade policy consider the present system of evalu-

ating duties a main barrier to imports and the cause of at least 50% of the mountain of customs litigation pending in the courts. The contrary-minded faction not only worries about the bill's possible threat to the American selling price rule, but also says there's danger that the bill might make dumping in U.S. markets easier for foreign traders.

There's some lively support behind the Jenkins bill; it appeals to those who want to jack up the volume of world trade. The chemical industry almost certainly will use its influence to block the measure, with help from at least the hard core of high-tariff senators. Much depends on whether the Randall commssion throws its weight behind the bill, and whether the administration takes a strong stand on it. Even without the endorsement of the President, H.R. 6584 can be expected to get enough Senate backing to give some domestic producers a scare about increased imports.

LEGAL. . . .

No Surrender: The natural gas industry isn't running up the white flag, even though jolted by the recent U. S. Supreme Court decision in the Phillips case (CW, Dec. 12). Since the high court's action upholding the Federal Power Commission's authority to regulate rates of natural gas producers who sell to interstate pipeline companies, affected companies are contemplating two recourses:

• Phillips is planning to file another petition asking the Supreme Court for a rehearing. Chairman K. S. Adams of the Phillips board observes that the oil and gas companies, the states of Texas, Oklahoma and New Mexico, and the FPC itself all wanted the case reviewed.

 Industry leaders are thinking of asking their Congressional delegations to make another effort to enact the so-called Kerr natural gas bill, which was vetoed by President Truman several years ago. That bill would exempt independent producers from FPC rate-fixing.

Bid for Clearance: Two big companies that have chemical subsidiaries are offering to change their corporate setups to satisfy the Federal Trade Commission that the firms aren't breaking antitrust laws. It's not clear whether the chemical subsidiaries of Schenley Industries and Distillers Corp.-Seagrams would be involved in the reorganization, which would consist mainly of absorbing liquor-making subsidiaries into the parent companies.



FTC objected to the firms' pricing practices, whereby one parent company would help set the prices of brands of liquor produced by various subsidiaries.

Oral Arguments Next: The government's unwieldy antitrust case against Du Pont, General Motors and U. S. Rubber Co. lumbers into the final argument stage this week, following the filing of defendants' briefs:

• Du Pont's 461-page tome asserts that the government's charges of a "master plan" to run the three companies as a vast "protected market . . are overwhelmingly disproved by the record."

· U. S. Rubber, in a 184-page brief, denies that there was any favoritism in its relations with Du Pont and GM, or that individual defendants had power to control those relations.

· GM's forcefully worded 173page rebuttal contends that there was no direct evidence behind the government's technique of "selection, misrepresentation and suspicion.'

 Separate briefs for five members of the Du Pont family and for the 10 minor children among the defendants asked for dismissal of charges on grounds that the government had failed to make out a case against these persons.

Chemical Export Ban: Alleged illegal transshipment of more than \$125,000 worth of insecticides and antibiotics is costing a Netherlands firm, Lindemann & Co., and its associates all U. S. export privileges for the duration of the export control program.

LABOR. More Yuletide Cheer: Prospects this week are that chemical workers in the U.S. will have the wherewithal for plenty of Christmas gifts. Latest figures from the Labor Dept. show that while pay envelopes have been getting slimmer in manufacturing industries generally, there was an opposite trend in chemical plants during September: wage rates and work hours both moved up, producing an all-time record \$77.98 weekly earnings average for chemical production and maintenance employees.

Examples of the wage boosts by individual companies that are lifting the nationwide chemical average:

 Kentucky Synthetic Rubber Corp., Louisville, is increasing wages by 10#/hour for 131 employees represented by United Rubber Workers (CIO). Rates at the plant, a union official says, now will range from \$1.63 to \$2.04/hour.

· American Cyanamid is raising pay 6¢/hour across-the-board for employees at its New Castle, Pa., plant. It took only three hours to negotiate the new contract with United Gas. Coke & Chemical Workers (CIO).

· Union Carbide's Prest-O-Lite division is upping wages of its employees at Speedway, Ind., with a 5¢ general increase and special adjustments for certain categories of workers ranging from 7¢/hour to 15¢/hour. Gas-Coke is the collective bargaining agent.

And Retirement Comfort: It won't show up in the Labor Dept.'s wage statistics, but it will still be a lot more money paid out to the company's good and faithful servants." This is the proposed increase in companypaid pensions for Du Pont's retired employees. If approved by stockholders at the annual meeting in April, it will add an estimated 30% to the company's yearly pension expense, currently about \$25 million. For most retired Du Ponters, the proposed increase would be somewhere between \$30 and 50/month.

Bigger "Bites" Seen: In at least six states, all of which have agglomerations of chemical processing plants, moves are under way to liberalize unemployment compensation paymentsmeaning that employers would be billed for larger contributions to state unemployment insurance funds.

• In Michigan, Governor Williams is planning to ask the legislature to stretch the maximum benefit payment period from 20 to 26 weeks. State Sen, Edward Hutchinson proposes that the level of unemployment payments be varied according to the rise and fall in average take-home pay.

· Virginia's legislature will meet next month and take up a proposal to increase the maximum weekly unemployment benefit check from the present \$22 "to at least \$25 and preferably \$30."

· The state CIO council in New Jersey, jubilant about the upset victory of CIO-backed Governor-elect Meyner, is urging that the maximum weekly benefit be elevated from \$30 to \$45, with an additional \$5 for each dependent up to an over-all maximum of \$65/week, but with no one to receive more than two-thirds of his normal pay. The CIO also hopes next year's legislative session will mark the end of the one-week waiting period before an unemployed person can begin receiving payments.

• Business spokesmen in Massachusetts are warning that if the maximum unemployment payment is raised from \$25 to \$30/week, the reserve fund would probably dwindle to less than the \$200-million base figure.

· Behind the move for hoisting California's unemployment benefit maximum from \$30 to \$55/week and for eliminating the one-week waiting period is the state CIO council.

· An unexpectedly large increase in total payroll of covered industries in 1953 apparently is putting North Carolina into an insurance category that calls for exaction of higher levies from employers. It's likely to cost them an additional \$7 million or more in 1954.

Relocations for Peace: Newly available for peacetime jobs are 150 former employees of the Chattanooga ordnance works, operated for the government by Atlas Powder Co. Atlas said it would lay off 150 of the 2,100 workers there because of "easing of world tension."

Checkreins for Unions: Business and labor groups are lining up for and against various proposed amendments to the Taft-Hartley law, to be considered by Congress starting next month. Latest to declare itself: the Illinois Manufacturers' Assn., membership of which includes numerous chemical firms. IMA wants "compulsory unionism" to be prohibited, wants labor unions to be subject to antitrust law.

Multiplant Bargaining: Still biggest labor dispute in the chemical and pharmaceutical industries this week is that of some 3,500 members of United Gas, Coke & Chemical Workers (CIO) against Merck & Co. and Merck's recently acquired subsidiary, Sharp &

That strike now appears to be Gas-Coke's first all-out push for companywide bargaining; the union feels it's in a fairly strong position at all five of the Pennsylvania and New Jersey plants involved, hopes this bold stroke may lead to one big, generous contract covering all five plants.

But the company is resisting. Board Chairman George Merck has told the union that company representatives are available for negotiations at each plant, and that the company considers the single-plant approach "essential because of differences in operations and local conditions" at the separate locations.

Pending a court hearing on a company request for an injunction against mass picketing, strikers have agreed to let the company continue its research



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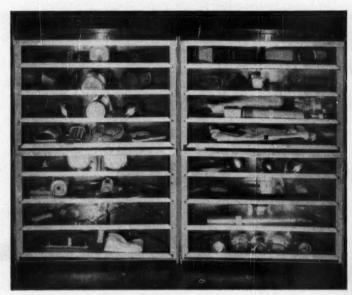
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SOLD ON THE effectiveness of visual presentation in educating the public to the wonders of chemicals, Du Pont's Petroleum Chemicals Div. now offers a Magic Barrel Show "fit for presentation to luncheon . . . and television audiences alike." To date, more than 70 units have been assembled, some two dozen others are on order by major oil companies and others interested in making use of the public relations angle involved.

The display is designed to look like a 55-gal. oil drum, split lengthwise into two sections, hinged together so that it can be opened and used as a lectern. The presentation is flexible, covers the three essential necessities of livelihood—food, clothing, and shelter. For added punch: synthetic rubber balls are produced by trained demonstrators, tossed to souvenir seekers.

work and to permit it to ship medical products required in emergencies.

Meanwhile, the 8¢/hour wage instrikers has been accepted by 350 crease turned down by the Gas-Coke clerical workers at the three Sharp & Dohme plants.

Phenol, Containers, Paper: Three other strikes have come into the chemical milieu this week:

• At Richmond, Calif., on San Francisco Bay, jurisdictional bickering between two AFL unions halted construction of Standard Oil's \$4-million phenol plant. All parties were hoping that international representatives of the Teamsters and of the Steamfitters unions would patch up the disagreement this week. The Teamsters objected to loading and unloading work done by the Steamfitters on trucks driven by Teamsters.

• Two companies that produce large quantities of containers for chemical and other process plants have been struck by the United Steelworkers of America (CIO), but are continuing production at some of their plants not involved in this dispute. Union demands are said to be about 15¢/hour above the 10½¢ company offer.

 Another setback for the two AFL unions striking against two paper mills in Elizabeth, La., came this week with news that the general counsel of the National Labor Relations Board has turned thumbs down on the

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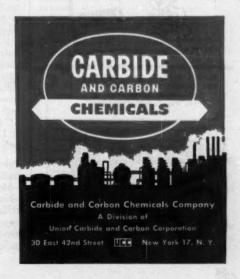
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BUSINESS & INDUSTRY

unions' charges of unfair labor practice. The unions had asserted that the companies had refused to bargain in good faith, but this charge was rejected by the NLRB regional office at New Orleans. After 15 months on strike, the unionists still are manning the picket lines, but in greatly reduced numbers.

FOREIGN . . .

Petrochemicals/Australia: American private investors are reported to be among backers of a venture to produce petrochemicals in Australia. A new company—Petroleum and Chemical Corp. (Australia), Ltd.— has been created with initial capital of \$7 million, plans to build a plant at Silverwater, near Sydney for operation late in 1955. Feed stock will be obtained from Bitumen and Oil Refineries (Australia), Ltd.

Other reports, currently circulating in Melbourne, indicate other foreign companies may enter the petrochemical field in the not-too-distant future. Among them: Shell Oil Co.—said to be planning to manufacture petrochemicals in the State of Victoria.

Sulfuric Acid/Turkey: Contracts to build a sulfuric acid plant at Murgul, Turkey have been awarded to a French concern—Sociéte Commerciale Technique et Industrielle. The plant, to be located in eastern Anatolia, will cost \$1.2 million, will have a capacity of 100,000 tons/year.

Thermoplastic Materials/Great Britain: The Bakelite Co., London, has substantially added to its thermoplastic materials capacity at Ayecliffe, England, by bringing onstream a new plant (cost: \$2.8 million) to produce polyvinyl and copolymer resins. Eventually it's hoped to raise total output of both resins to a level sufficient to meet all domestic demand.

Polyethylene Film/Australia: Visking Corp., Chicago, Ill. has signed an agreement with the Austrialian subsidiary of Imperial Chemical Industries to manufacture polyethylene film and lay-flat tubing in Australia. I.C.I.A.N.Z. will erect a new plant at Deer Park, Victoria, to supply the polyethylene.

Polystyrene/Australia: Also in Australia, Monsanto Chemical's associate —Monsanto Chemicals (Australia) Ltd. —has (1) started production of phthalyl sulfacetamide and has already made export sales in the U.S.; (2) has started local production of polystyrene from imported styrene monomer. Further,

it plans installation of facilities to produce certain rubber, agricultural chemicals in the near future.

Sulfur/Sicily: Sicily's sulfur exports in the first three quarters of this year have dropped to 5,650 tons from 47,000 tons in the comparable period last year. The decline in exports is alarming Sicilian producers, has brought a demand for government protection and support of sulfur stocks—now estimated in the region of 200,000 tons.

French, West German Barter: A proposal under which France would supply alcohol to the West German firm Chemische Werke Huels AG of Marl has been submitted by the French Alcohol Producers' Assn. to the appropriate authorities. Under terms of the agreement a French firm would invest 3,000 million francs in the production of synthetic rubber by Chemische Werke, and supply its alcohol at 24 francs per liter. France would receive in exchange 12,000 tons of synthetic rubber annually at 210 francs per kilo. To tie up the package: the contract would be signed for either a 12-, or 17-, or 25-year period.

KEY CHANGES. .

Lance H. Cooper, to vice-president, International Nickel Co. of Canada, Ltd., New York City.

David L. Eynon, Jr., to assistant to the vice-president in charge of manufacturing, Monsanto Chemical Co., St. Louis, Mo.

E. Willard Winslow, to manager, Advertising and Sales Promotion, Marketing Section, Silicone Products Dept., General Electric Co., Waterford, N. Y.

Oscar L. Scherr, to chief chemist, Research Div., and R. Gerald Smernoff, to chief chemist, Production and Control Div., Process Chemicals Co., Los Angeles, Calif.

R. R. Cole, to executive vice-president, Monsanto Chemical Co., St. Louis, Mo.

Henry H. Bittler and J. Russell Wilson, to the board of directors, The Chemstrand Corp., Decatur, Ala.

Karl A. Holst, to general manager, Rumford Chemical Works Div., Hulman & Co., Rumford, R. I.

Peter T. McDevitt, to district manager, Montreal, Que., District Office, Carbide and Carbon Chemicals, Ltd., New York City.



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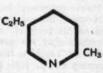


PHYSICAL PROPERTIES

Molecular weight Melting point, °C			
Boiling Point, °C			29
Density, gms/ml. @ 1			.950
Solubility			
Water	very	soluble	
Alcohol		infinite	
Ether		_infinite	
Celor	,	water	white
Odor		disag	reenble

2-Methyl-5-Ethyl Pyridine (Aldehydine)

2-Methyl-5-Ethyl Pyridine (MEP) is a straw colored liquid that is used commercially in the pharmaceutical field as well as the synthetic fiber, plastic and elastomer industries.



PHYSICAL PROPERTIES

	121.18
Melting point, "C Boiling point, "C	
Density gms/mi. @ Solubility	23/4 °C9164
Water	
Alcohol	soluble
Color	light amber disagreeable

Gamma Picoline (4-Methyl Pyridine)

Gamma picoline is a colorless liquid that has received recent popularity as a pharmaceutical intermediate with the discovery of isoniazid, the new tubercular-static agent.



PHYSICAL PROPERTIES

Molecular weight	
Melting point, °C	
Boiling point, °C	143.1
Density g/ml. @ 15/4 °C _	.9571
Solubility	
Water	infinite
Alcohol	Infinite
Ether	infinite
Color	water white
Oder	dispareeable

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LANDAU (seated) AND EGBERT: Finding a niche by picking their slots.

Concentrating on Organics

This week in Orange, Tex., Allied Chemical is pushing construction on its ethylene oxide plant, slated for completion early next year. In France, meanwhile, Naphtachimie is completing four months' operation of its ethylene oxide plant at Lavera-with a minimum of start-up troubles. And in Holland, the management of Noury and van der Lande, after making a critical appraisal of its Deventer citric acid plant, converted to a modified process last summer, is busily plotting an expansion program for it. The common denominator for the three widely scattered plants: New York City's Scientific Design Co., which supplied the processes, designed and engineered the plants in whole or in part.

In the highly competitive field of engineering firms for the chemical process industry, Scientific Design has grown from a three-man outfit in 1945 to a 200-man concern today. The firm doesn't have a Latin motto. For that matter, it doesn't have an English one. But if it did, it would read something like this: "We pick our slots."

For when the three men, Harry

For when the three men, Harry Rehnberg, Ralph Landau and Robert Egbert, started out nine years ago they decided to specialize in organic chemicals. Their basic philosophy was that they should enter only those fields in which their special knowledge and diverse experience would give them an edge.

And they've never lost sight of their

basic objective. They have, for the

most part, steered clear of the basic petroleum field. They've also shied away from heavy chemicals like ammonia and sulfuric acid that would give them a prosperous business doing repeat orders. Instead, they've concentrated on the relatively narrow field of organics that are generally conceded to be "tough" to make.

Keeping Sharp: Like a lot of its competitors, Scientific Design can divide its projects into three types: those using processes it developed itself, those using a customer's process and those for which it had to "go outside" to get one for a customer. But roughly half of its jobs involve its own processes. And aside from the obvious advantages of having their own processes, the three owners feel their own development work helps them in tackling the other two types. "It," says President Rehnberg, "introduces us to the whole large area of processing problems, helps keep us aware of the type problem we will meet. It, in short, keeps us sharp."

As they see it, a great many firms have diversified into the chemical industry on the basis of know-how purchased from engineering firms. Most have entered through the field of fertilizers. Scientific Design is aiming to do the same thing, on a more modest scale, for firms in organics.

Citric acid is a good case in point. Until Miles Laboratories entered the picture and Stauffer started making the citrate salt, citric acid was considered the private domain of Pfizer. Citric's a versatile, cheap chemical. But it's ticklish to make and there aren't many firms that would be willing to spend the money required to develop a process that could compete with Pfizer's—particularly since the latter has a 30-year running start.

But Scientific Design developed a process in conjunction with Noury and van der Lande, is now prepared to license it to U. S. firms. Thus, it reasons, for the first time an American producer can branch out into the production of citric acid without heavy investment in process development.

Citric acid, of course, isn't the only string in SD's bow. A quick rundown of some of its present and recently completed jobs serves to point up its diversity:

• The ethylene oxide process was developed by Scientific Design• for Naphtachimie. The plant was built to make 17-20 million lbs./year but it now seems possible that it may produce considerably more. It's a direct oxidation process and gives, says SD, much higher yields (in the sixties) than the literature would lead you to think possible (55-57%). It claims too that the plant called for a surprisingly small investment. A somewhat similar process is being installed for Allied at Orange.

• It has developed a process for making maleic and phthalic anhydride. The two, made under different operating conditions, require different catalysts but a producer using the Scientific Design process can turn out

^{*}With collaboration, in the early stages, of Petrocarbon, Ltd., and Petrochemicals, Ltd., England.

the two interchangeably in the same physical equipment, thereby enjoying the advantages of a bigger plant for both products.

Ît's engineering an ethylene purification unit for Spencer's polyethylene plant in Orange, the vinylchloride monomer and polyvinylchloride units for General Tire & Rubber at Astabula, O., as well as plants for cumene and chlorinated solvents for other firms.

 One of its newest processes is one to make terephthalic acid.

• It has recently completed a plant for the University of Liege in Belgium that will be able to produce new antibiotics for testing in vivo. Costing the equivalent of \$0.5 million, the plant was paid for and is operated by the Belgium government.

Setting the Sights: The firm is wholly owned by the three founders. Rehnberg, who first got the idea for Scientific Design, is president, administrator and the one who deals with people. And fittingly enough, Ralph Landau, who worked with Rehnberg at Kellogg (and Kellex) and who was a classmate of Egbert's at M.I.T., is executive vice-president, the coordinator. Egbert is vice-president in charge of engineering.

But all three are engineers. Sound engineering is, in fact, almost a fetish with them. They try, for instance, to work up a tentative design for: a plant before any research is started so that their efforts will be concentrated in the most fruitful areas. The firm itself does no erection or construction, has no shops to fabricate.

It isn't the biggest firm in the field

by a long shot, but its 200 men—about half of whom are engineers—make it larger than the engineering departments of all but the biggest chemical companies. The three owners feel that it's just about the right size now—not too big to make communication difficult, not too small to tackle difficult projects. In the words of Ralph Landau, it has "found a niche" for itself.

PROCESSES.

Pilot for Pollution: Knowing how something works is often the prerequisite to knowing what it will do. That's the basic idea behind the new pilot plant set up by Wisconsin's sulfite paper mill operators as part of their effort to reduce pollution of the state's streams. At one time, it seemed that the idea of trickling spent sulfite liquor through rock filter piles was a good bet for getting rid of wood sugars that use up dissolved oxygen in streams. But the cost of the rock piles was found prohibitive, and the idea was shelved as being uneconomical. Then some of the Wisconsin mills turned to storing their spent liquor in artificial lagoons, or percolating it through towering bark piles. When the liquor seeps through the bark or soil to the stream, it apparently loses some of its thirst for oxygen. Now to find out just what's going on, producers in the area have built the new pilot plant, which contains six ceramic tile columns with a 10-ft. bed of soil or bark. Spent liquor is metered in at the top of the column and captured as it leaves the bottom. Chemical and biological tests on the effluent from

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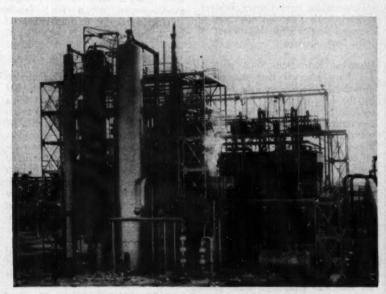
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FRENCH OXIDE PLANT: The literature can be misleading.



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PRODUCTION. .

the columns are now getting under way.

Municipal Fertilizer: Milwaukee has shown that not only is it possible for a city to clean up its sewage, but that it also can be profitable: for it sells the by-product of its sewage treatment plant as fertilizer. Now Louisville is considering the same thing on a smaller scale. Says Morris Forman, chief engineer of the Metropolitan Sewer District: "I am of the opinion that Louisville may never go into the manufacturing of fertilizer as Milwaukee has, but we may be more than glad to have farmers or others pick up our sludge to offset our costs of hauling it away from the plant site." Milwaukee, although it probably has the most publicized plant, hasn't the only one that sells fertilizer. According to Engineering News-Record, 240 American cities with sewage disposal plants sell fertilizer as a byproduct.

Triple Push: According to the TVA, you can look for a rash of new developments in projects involving its processes to make concentrated superphosphate. It reports that it has licensed four firms-Sturtevant Mill Co. (Boston), Link-Belt Co. (Chicago), Fertilizer Engineering and Equipment (Green Bay, Wis.) and Fertilizer Equipment Sales Corp. (Atlanta, Ga.) -to make its cone-shaped mixer for use in triple superphosphate plants. The agency also reveals that four commercial firms are licensed to use the process, which was developed by Stewart Harvey, director of its chemical operations, and Grover Bridger. formerly with TVA and now head of chemical engineering department of Iowa State College.

Waterless Extraction: Some authorities have claimed that the future growth of Colorado may be held up by the lack of water. At a recent meeting of the Colorado Water Conservation Board reviewing the situation, a Los Angeles engineer, Raymond Hill, told the committee that oil companies are exploring waterless methods of extracting oil from Western Colorado shale deposits. The work, he says, is as "hush-hush as the Atomic Energy Commission."

EQUIPMENT. . .

Throwaway Caps: Record Industrial Co. (Philadelphia) is taking the housewife's dream of throwaway paper dishes and translating it into an item for chemical plants: workers' paper caps. Developed by Du Pont, they're made of heavy kraft paper treated with neoprene. Du Pont reports that in the plant where they were developed, their use resulted in savings amounting to \$2,000/year. Here's how: about 3 000 workers in the plant were required to wear some sort of headgear. About 15,000 cloth, re-usable caps were used annually. But it found that laundering damaged the cardboard stiffener in the visor, and that the workers sometimes resented the appearance of the laundered caps. Net result: the caps, if they weren't discarded before laundering, were thrown away long before they were worn out. The paper caps cost only a third as much as the cloth ones. While they don't have the physical strength of cloth caps, they don't soil any faster, are resistant to acids and alkalies and, according to Du Pont, can be worn as long or longer than cloth caps.

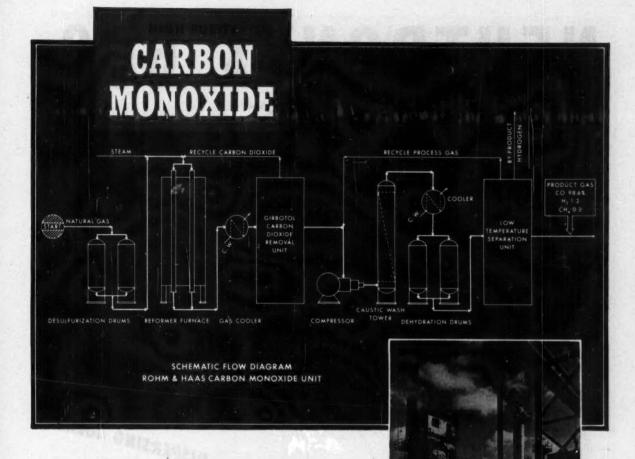
Nylon Caps: Caps of a different nature also are being plugged by Du Pont this week. They're molded nylon caps for reference electrodes. They've been tested by Philadelphia's Leeds and Northrup and show, says Du Pont, excellent strength, dimensional stability and electrical qualities. The capped electrodes were boiled steadily in solutions with pH's ranging from 3 to 14 for nine months. The only detectable effect on the material was a slight discoloration.

Dust Collector: Pangborn Corp. (Hagerstown, Md.) is out with a new cloth bag collector aimed specifically at small-volume dust collection problems. They're made of heavyweight sateen - weave cotton filter fabric stitched vertically to form multiple tubes, are available in seven sizes ranging from 200 to 1,000 sq. ft. of cloth area.

Ground to Order: Najac Engineering Co. (Blawnox, Pa.) has made a bid for custom grinding business with a new service department set up to do just that. It's ready to take on pilot jobs or commercial ones for customers whose volume does not warrant installation of commercial pulverizing equipment. It will use two of its own Jet pulverizers, which have capacities up to 4,000 lbs./hr., says it can handle a wide range of materials including limestone, coal, iron ore, clays, graphite, feldspar and alumina.

Safer Handling: Hints on handling specific chemicals are the subject of reports by two different groups this week:

• The Manufacturing Chemists'



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Rohm & Haas reduce acrylics price 12%

This girdler plant produces carbon monoxide of 98% purity by the process shown in the above schematic flow chart. It is part of the new Rohm & Haas plant at Houston, Texas, which has resulted in a price reduction of 12% for ethyl acrylate monomer... from 48¢ to 42¢ per pound.

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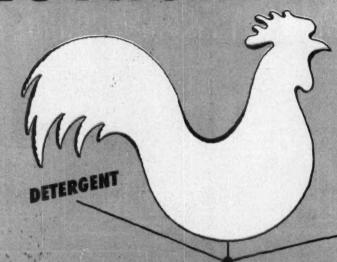
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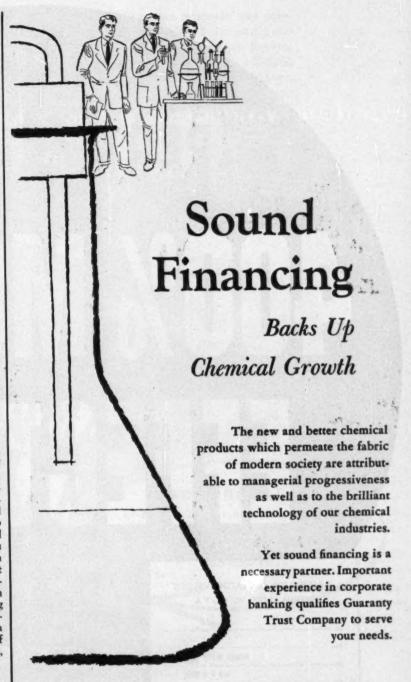
PRODUCTION. . . .

Assn. is issuing a new safety data sheet on butadiene. It's not generally regarded as a dangerous material to handle but, as MCA points out, exposure to its vapors can cause minor irritation to eyes, nose, throat and lungs; contact with the skin can cause frostbite because of its rapid evaporation. And in the proper mixture with air, it's explosive. MCA suggests pro-cedures for unloading, storing, handling and waste disposal that should, if followed, eliminate any accidents with the chemical. It also devotes a section to health hazards and their control, recommends personal protection equipment and first aid measures for burns.

• Buffalo Electro - Chemical Co. (Buffalo, N. Y.) has just issued a bulletin (Becco Research and Development Department Bulletin No. 54) that deals with safety factors regarding the use of hydrogen peroxide. It gives practical recommendations for handling and storage of the chemical, includes a theoretical study of the heat balance in storage vessels and covers methods of self-heating storage tanks. Becco points out that many of the calculations used to predict the storage behavior of the peroxide can be applied to other energy-rich chemicals.

Smog Predicter: T. A. Rich, of the General Engineering Laboratory of General Electric (Schenectady, N. Y.), has perfected an instrument for measuring condensation nuclei-minute airborne particles on which water will condense. He hopes it will help to detect atmospheric conditions that will cause smog, also to spot what he calls "invisible air pollution" about which so little is known. He warns that it won't result immediately in smogelimination techniques, puts it forth as one of the means of furthering research in the whole field of air pollution. He describes the device as a "simple and easy-to-use equivalent of a 70-year-old method that is complex, uncertain and lengthy."

Longer-Lived Conveyers: The Manhattan Rubber Division of Raybestos-Manhattan, Inc. (Passaic, N. J.) has a new conveyor belt cover which it expects will give longer resistance to abrasion and tearing than competitive materials. Tagged the "XDC" conveyor belt cover, it's being applied to a wide range of the firm's belts. The maker claims that tensile strength of the conveyor cover has long been over-rated as a factor in belt specifications. It contends that most failures can be laid to abrasion wear and tear.



Guaranty Trust Company of New York Capital Funds \$380,000,000

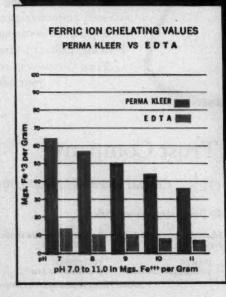
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DISTRIBUTION.



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Integration, Not Luck

Not luck but "tremendously wise planning and extraordinary efforts by those engaged in distribution" will be necessary if we are to realize a 10% increase in sales of consumer goods and services in 1954-55. So said J. Warren Kinsman, Du Pont vice-president at the National Assn. of Manufacturers' 58th Congress of American Industry last week in New York. The problem, he stressed, is to sell "and to maintain or create use or consumption".

Every phase of our industrial and personal daily life, Kinsman said, is dependent on the "industrial non-durable goods" produced by chemical manufacturers. To properly gear that production, these manufacturers must "rely extensively on market analyses and research to determine consumer acceptance and the potential volume of sales."

And in a question-and-answer panel session—"Integrating the Marketing Team"—the NAM exploited the experience of five marketing specialists. Questions covered: the necessity of market expansion for the survival of business enterprise; product research; package design; efficient production; and over-all integration.

The panel of experts wrestled with a number of knotty marketing problems. Some of these:

Q. What does integration actually mean?

Ben Duffy, BBDO's hustling president, answered: "I cannot conceive of a new product being developed without marketing research. Product research in terms of marketing the product, packaging, advertising, selling, all have to be coordinated and integrated. Management must take the responsibility of coordinating."

Harry Tosdal, professor at Harvard's Graduate School of Business Administration (and panel moderator) stressed integration's two main features: (1) getting the right man to obtain the necessary coordination; (2) programming the measures in 1, 2, 3 order to set the marketing team rolling.

Q. Is marketing research as efficient in the car-load raw-materials field as it is in the retail field?

Elmo Roper, pollster and market consultant, avers that "market research is less efficient in that area than it is in the area of what the consumer will buy . . . although it has some usefulness."

Problems are multiplied by two when selling raw materials to a manufacturer. First, you have to get a great deal of information from the manufacturer—who's your customer. Second, you as a seller of raw materials, must size up the products that your customer is making and appraise what his customers think of them.

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DUFFY, ROPER, TOSDAL: Better public relations boosts sales.

O. Who should be assigned the responsibility of establishing the sales quota? What part should marketing research play in that task?

The man who is in charge of sales has to set the quota" is the opinion of John McBride, Manager of Marketing, Major Appliance Division of the General Electric Co. Marketing research may, of course, to some extent influence the sales department's judgment in establishing the quota.

Roper agreed: "Marketing research at best is a tool of management and should remain that way.'

Q. What are the important points to consider in developing a good selling package?

Raymond Loewy, whose design accomplishments range from the Lucky Strike package to Studebakers, considers that "the main philosophy behind designing a successful package is not to design the package as a unit itself, but as a unit pitted against competition." This sort of thinking is being pondered over by more and more chemical manufacturers currently because they are putting an increasing number of products before the public eye.

Q. Why do so many firms neglect a formalized and integrated public relations program in their marketing strategy?

"They don't know how to take advantage of public relations" is the reason given by Ben Duffy "[They] lack knowledge of how to use a public relations program." Elmo Roper added that a company's "reputa-

tion has a very definite effect on the volume of the goods that the public is willing to buy. Various technicians in the field-research and sales promotion people-have not yet found a way of explaining how this integration can take place to a point of being convincing."

Technique Adapted: At the conclusion of the panel session, Harry Tosdal presented some additional food for thought for chemical manufacturers. He is convinced that advances in the marketing of industrial goods have come very largely from adapting some of the techniques that had already been applied to the marketing of consumer goods.

The conclusions of the panel were, indeed, significant-but not unique. Du Pont's Kinsman, long regarded as one of the country's most foresighted and thought-provoking chemical sales executives, anticipated most of them.

He emphasized chemical sales servicing, said that "we must all strive to develop for manufacturing consumers special processes for converting our chemicals and the apparatus to do it with; too, we must develop packages."

Sales and service laboratories must assist in solving the problems of their industrial customers, their customer's customers, . . . "and on down the third and fourth generations in the manufacturing system."

And not to be overlooked either: "the merchants who perform the ultimate function of supplying and servicing the customer.

CHEMICAL PROCESS NEWS

PUBLISHED BY CHEMICAL PROCESS DIVISION, THE M. W. KELLOGG COMPANY

NOVEMBER 1953

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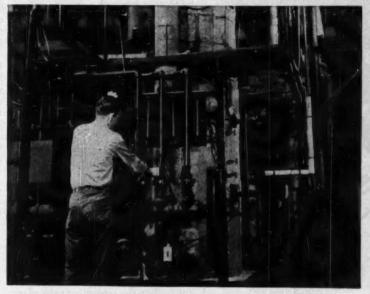
The cost of a plant for the production of synthetic ammonia is greatly affected by the composition of the feed gas.

Conventionally, if natural gas is the feed it must undergo several preparatory steps to produce a suitable mixture for the ammonia synthesis. Reforming or partial combustion must be followed with CO shift and then absorption purification to remove CO2 and unconverted CO. On the other hand, if hydrogen-rich gas is the charge the process requirements are greatly simplified. The feed is chilled to low temperature and subjected to liquid nitrogen washing to remove impurities. Ammonia synthesis is accomplished by the same method with either feed stock.

Since the largest single item of cost in the production of ammonia is the charge for plant depreciation, (about 20% greater than per-ton-direct-operating-cost in a natural gas feed plant) the extent of the equipment required to prepare synthesis gas has a major effect on total production cost.

Economic analyses of processes involving both feeds show that the payout time for plant utilizing hydrogen-rich gas is in the neighborhood of three years, and that employing natural gas is less than five years.

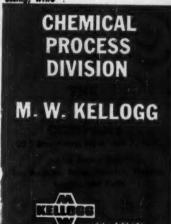
Thus there is a great economic incentive for anyone with hydrogen-rich gas or by-product hydrogen available to enter the fields of ammonia production.



Ethylene Pilot Plant Studies Disclose Flexibility of Unique Pyrolysis Method

In the pilot plant shown in the illustration Kellogg is currently carrying on extensive studies of the adaptability of its unique pyrolysis process to the production of high purity ethylene from feed stocks other than naphtha—the charge stock for which the process was originally developed.

For further information, technical data, etc., relating to chemical or petrochemical presessing, write



The pilot plant runs have already proved that the method can be employed successfully on ethane, propane and heavier materials without production of the large amounts of coke normally encountered in conventional processes.

This low coke production had been predicted on the basis of commercial operating reports from an ethylene plant which Kellogg designed and erected in England for

the pyrolysis of naphtha.

Whereas conventional pyrolysis furnaces usually average only a few weeks on stream before being shut down for coke removal, the English plant has remained in continuous operation for 12-month periods. During these times it was operated with sufficient severity to convert 55 to 60 wt.% of the naphtha to ethylene and other gaseous hydrocarbons.

In addition to producing high quality products over extended periods, the plant has attained maximum economy of the heat required for pyrolysis. A novel design in the quenching system which follows the pyrolysis step, plus the use of low-level heat by the absorption refrigeration system, provide major savings through recovering most of the heat used in cracking.





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Ammonia to Hawaii

With the arrival this week of two big shipments, a trend in Hawaii's sugar industry fertilizer practice appears to be shaping up.

One tanker carrying 11,000 bbls, of aqua ammonia docked at the Kauai ports of Port Allen and Nawiliwili; a second bearing a like amount was scheduled to unload at Honolulu and Kahului. These were the first shipments of the fertilizer material to be supplied by Hawaiian jobber Pacific Chemical & Fertilizer Co.

And just a few weeks ago, a second supplier, Brea Chemicals, Inc., a Union Oil Co. subsidiary, unloaded its first shipment to Hawaii from the Union Oil Co. tanker Paul M. Gregg. Brea's initial delivery of about 5,000 bbls. was unloaded and stored in Brea's Honolulu tanks.

To effect delivery of such liquid nitrogen to the Hawaiian sugar plantations, both Brea and PC&F are investing considerable sums in storage facilities. In addition, Oahu Transport Co., Oahu, has acquired two new specially designed, semitank trailers for hauling the ammonia to the plantations.

For the present, aqua ammonia will be applied only to the irrigation

ditches in the islands. If the project is as successful as hoped, the Hawaiian sugar industry is expected to switch almost completely to aqua ammonia to supply the nitrogen requirements of its irrigated land. But consensus is that nonirrigated land will continue to be fed with solid-form fertilizers.

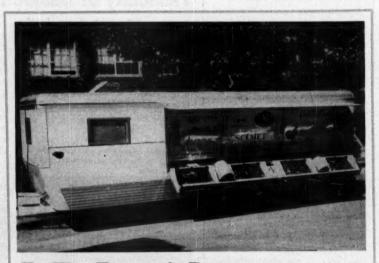
Commenting on the sugar plantations' switch-over to a liquid form of fertilizer, Roger Humbert, acting director of the sugar producers' Experiment Station, noted that the industry uses about 15,000 tons of nitrogen annually.

Substantial savings in fertilizer costs will be possible, said Humbert, because aqua ammonia is cheaper than solid forms of fertilizer. Additional savings will also obtain, he added, because of lower costs of application.

Two From One

What may be one of the newer trends among larger chemical manufacturers received further confirmation this week when a major firm disclosed that it was reorganizing its sales setup.

Effective Jan. 1, Food Machinery & Chemical Corp. will replace its Westvaco Chemical Div. with two separate divisions, Westvaco Chlor-Alkali and



To The Farmer's Door

THIS TRAVELING information bureau was created for Lederle Laboratories, Pearl River, N.Y., to demonstrate to farmers the firm's line of veterinary products. Known as a Vetmobile, it resembles an ordinary trailer when its metal sides are closed. But when the sides are down, the rooster crows, the pig

rolls its eyes, attracting attention to Lederle's products. Other items of interest to farmers are shown on slide films—through the window on the side—and on a movie projector screen—the rear doors open. The 21-ft. trailer has appeared at four state fairs in the South, and after Jan. 1 it begins a nationwide tour.



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DISTRIBUTION. . . .

Westvaco Mineral Products. Reasons given for change-over: "streamlining and greater control of sales responsibility." Effect: grouping of sales and production management of related products into single divisions.

The Westvaco Mineral Products Div. will be responsible for sales of phosphates, elemental phosphorus, barium and magnesium chemicals.

And as its name indicates, the Westvaco Chlor-Alkali Div. will handle chlorine, caustic soda, soda ash, chlorine-containing chemicals and carbon bisulphide.

Sales and service groups as now constituted will continue with the two new divisions.

Food Machinery and Chemical has now expanded to eight nonchemical manufacturing divisions, an export division and, after Jan. 1, five chemical manufacturing and sales divisions. (The three existing divisions that will continue alongside the two new ones are Buffalo Electro-Chemical, Niagara Chemical and Ohio-Apex.)

To Consolidate: Union Carbide and Carbon Corp. plans to erect an office building and distributing center in the New England Industrial Center being developed at Needham, Mass.

Philadelphia Depot: Parke, Davis & Co. has built a new 15,000-sq.-ft. depot in the northeast section of Philadelphia, Pa. It will provide both warehouse and office facilities, will be managed by Fred H. Stigale, Jr.

For The Bookshelf: Among the current offerings are these:

 Bakelite Co. has published a "1954 Condensed Reference File of Bakelite and Vinylite Plastics and Resins". The 12-page bulletin contains information on more than 50 Bakelite and Vinylite materials, including their properties and uses.

cluding their properties and uses.

• Zonolite Co. (Chicago) has released a fact sheet and technical data manual on vermiculite. The fact sheet reports latest applications of this magnesium-aluminum-iron silicate; the data manual gives basic information aimed at suggesting additional uses.

• The Assn. of Casualty and Surety Companies (New York) accident prevention department has just issued a 60-page pamphlet titled "LP-Gas—Safe Handling and Use." The pamphlet describes the composition, properties and behavior of liquefied petroleum gas, also provides information on its storage and handling. Price: 254.

IRAY CHRISTMAS! HAPPY NEW YEAR IIREAS ALKYL CHLORIDES FUEL GAS ODORANTS URFACE ACTIVE AGENT

SHARPLES CHEMICALS INC.



RESEARCH

Still on the Upswing

Next year the chemical process industries will weave another thread into the fabric of increasing research expenditure: 1954 research budgets are, on the whole, materially greater than their 1953 forerunners.

That's the finding of a year-end CW survey of research directors representing 37 selected companies.

Although final replies were unobtainable in all cases, the vast majority of research directors report no trouble in getting their budgets approved by top management. Not all, however, can echo the experience of one who gleefully stated that his firm (substantial in size) encouraged him to boost his spending estimate, not to hesitate to ask for more money if needed at a later date.

In general, however, management reaction was more restrained, held 1954 budgets to small and moderate increases over last year's. Most reported hikes are in the vicinity of 5-10%. Exceptions, however, are conspicuous. On the positive side, three companies shared top increase honors with a thumping 25%.

Going the other way, the same number of companies find themselves under the budget knife, report slashes of up to 10%. In each case, the reason was identical: leveling off sales, general company expansion. Despite some opinion to the contrary, there appears to be little immediate danger of this flowering into a trend. Any attempt to forecast a general research letdown on this basis is belied by the current economic picture.

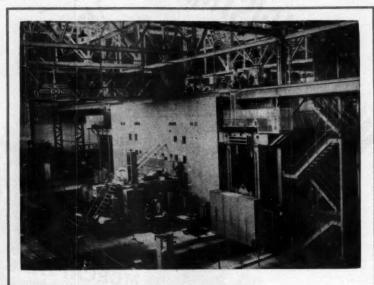
Higher research budgets, in the main, mean an expansion of activities. The build-up, as expected, will be felt mostly in established areas of activity; a significant minority of survey companies, however, point out that a part of each budget increase during the past few years has been earmarked for long-range and fundamental studies. Only one firm (which is boosting research outlay 10%) reports that its budget increase will be entirely offset by increased costs.

On two points, not even a single dissenting voice could be heard:

• Salaries are by far the largest single item of research expense, range from 60-90% of the budget among companies surveyed.

• Expiration of the excess profits tax (due at the end of this month) had no bearing on the formulation of research policy for 1954.

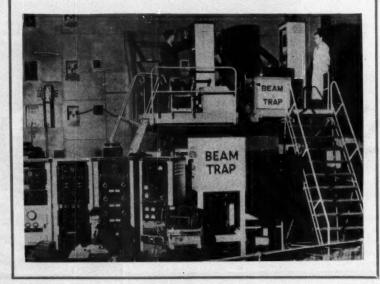
In a year of reasonably loose purse strings, you don't anticipate many



Nuclear Fact Finders

GREAT BRITIAN will be far from empty-handed when time rolls around for Anglo-American exchange (CW Newsletter, Dec. 12) of atomic information. Since 1947, nuclear reactors at Britain's Atomic Energy Research Establishment, at Harwell, have been providing the facts upon which future progress in harnessing atomic energy will be

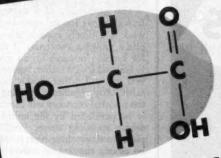
based. Shown (top) in one of the few such photos released for publication is BEPO, younger but more powerful of Harwell's two atomic piles. Closeup (bottom) reveals dark squares from which neutrons may be beamed out of the reactor for experimental purposes. Blocks marked "beam trap" are concrete, absorb neutron beams after use.



budget gripes. Research directors ran true to form. Chief concern of most was the need for more emphasis on the long haul. One prominent chemical research director puts it this way: "As I argue in my yearly and quarterly reports to management—we should do more research planning for the future—five or ten years away—instead of just batting at balls as they are thrown at us.

"However," he muses, "this is al-

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Hydroxyacetic acid solutions are miscible in all proportions with water and water-soluble organic solvents such as methanol, ethanol, acetic acid and acetone to insure maximum flexibility in processing operations.

The low volatility and lack of odor of hydroxyacetic acid help provide better working conditions wherever it is used. Among other industrial uses, hydroxyacetic acid has become a valuable aid in the processing of textiles, leather and metals and a useful intermediate in certain chemical reactions.

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RESEARCH.

ways the attitude of research people, but it can't always be the attitude of people who are responsible for managing the company's finances. We are getting on much sounder ground all the time where research is concerned . . ."

The probability of a strong industrywide move toward more long-range work is a timely consideration. Despite a growing awareness of the need for keeping research on an even keel in fair and foul weather, research budgets are still rather closely bound to sales. Any significant leveling off of the national economy will almost surely be paralleled by the industrial research spending curve. And, as experience shows, long-term projects will be among the first to suffer.

Incidentally, a fair sampling of research directors contacted expects a leveling off of research in their companies to begin in the next year or two. They do not see a slump, however, anticipate no whittling down of



Step-Saving

YOU'LL HAVE TO GO SOME to beat this setup for sheer convenience in catalytic reaction studies. Half laboratory, half pilot plant, it's an innovation in the research department of Monsanto Chemical Co.'s organic division. Group leader

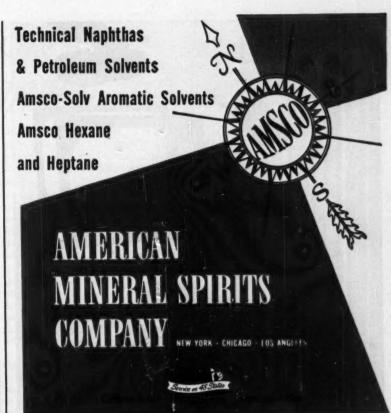
budgets in the foreseeable future. Replies to the question-"Do you feel your company's budget policies are sound?"-were almost all affirmative. Aside from the previously noted preoccupation with the short view, there was some feeling that not enough was being done. It may be summed up something like this: "My company hasn't grown up to the need for substantially more effort. While it is slowly expanding the amount of research, the total effort is not as great as it should be for this type of

Powerful medicine for this type of indisposition is offered by a voluble colleague. His prescription: make your needs crystal clear. "Our experience shows," he volunteers, "that if the needs are clearly presented to management, we seem to get pretty much what we need. If we all know what the company is trying to do, everybody is pretty happy."



Merger

Warn Robinson, adjusting pilotplant instrument panel, is just a step away from complete bench facilities, a corner of which is seen at right. Pilot-plant equipment (background) is tended by re-searcher Richard Sartorius.





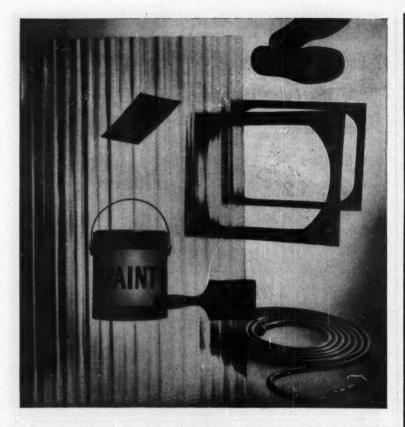
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U.S. PIPE'S LOFTON: On light oils, a contemplative eye.

Leaping with Logic

Like a bullfrog on a busy road, U. S. Pipe & Foundry Co. has lately been doing some fancy hopping. With its recent acquisition of Sloss-Sheffield Steel & Iron Co. (Birmingham, Ala.), the pipemaking firm secured a captive source of pig iron, landed feet-first in the steelmaking business. Its latest leap, not illogical for a steelmaker, puts it on the threshold of a new chemical venture in coke-oven byproducts.

With a contemplative eye on the light oils from Sloss-Sheffield's coking plant, U. S. Pipe has embarked on an ambitious program of new chemicals development. As a long first step, the company constructed a laboratory and pilot plant, installed coal-tar expert William Lofton as director of research.

Now under scrutiny in the new facilities are a number of aromatics—amines, nitro compounds and sulfonic acids—made from coal tar crudes. If Lofton and his researchers are successful in their new chemicals quest, U. S. Pipe & Foundry might well discover that its newly adopted field of activity affords plenty of territory for exercising its jumping legs.

Addendum: Here's more dope on the new boride-researching Borolite Corp. (CW Newsletter, Dec. 12). The firm is devoted exclusively to research and development of metal borides, assumes responsibility for work in this field previously carried on by its three founders: Firth Sterling, Inc. (Pittsburgh, Pa.) The Carborundum Co. (Niagara Falls, N.Y.); American Electro Metal Corp. (Yonkers, N.Y.). Ac-



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RESEARCH. .

cording to a joint report by the three, "the Borolite Corp. was formed to concentrate funds and facilities for . . . development of new high-temperature materials . . ." Some substances now under scrutiny show promise of withstanding operating temperatures ranging from 2,000 F (for turbojets) to 7,000 F (for rocket nozzles). At the start, all three parent firms will manufacture, but only Borolite will market Borolite-developed products.

Emphasis on the Precious: Baker & Co., Inc., has launched its new center for basic research on the precious metals at the firm's Newark, N.J., headquarters. Devoted to studies of the platinum metals, gold and silver, the new facilities supplement the company's normal research departments.

Phosphate Spotter: Chemists of National Bureau of Standards have devised what the bureau terms, "a rapid one-step procedure for othophosphate determination, which combines the . . . simplicity of a spectrophotometric method with the precision of . . . gravimetric analysis." Key: spectrophotometric determination of a yellow complex formed by the reaction of phosphate with a mixture of molybdic and vanadic acids. Sponsored by Sugar Research Foundation, the NBS work should catch the eye of the fertilizer industry.

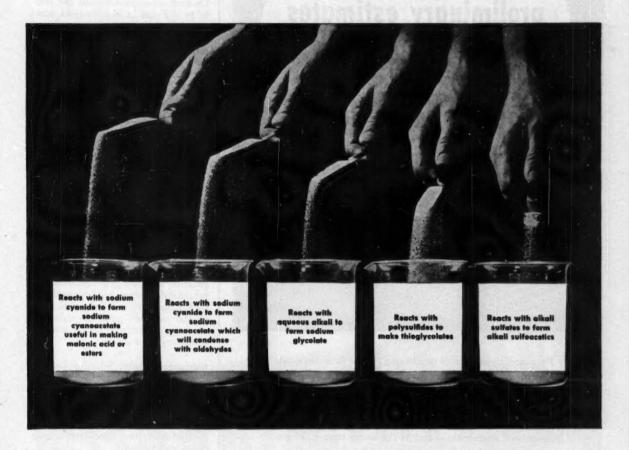
Wear Speeder: Harold Stiegler, research director of American Assn. of Textile Chemists and Colorists, cops the honors for the development of an entirely new device for testing textile fabric abrasion resistance and laundry fastness. In Stiegler's invention, tagged Accelorotor, accelerated wear is achieved by tumbling unmounted samples within an abrasive cylinder. Conventional wear testers impel an abrasive across a mounted fabric sample. Simulation of laundering wear is accomplished by placing fabric and laundering solution into the machine. The machine, manufactured by Atlas Electric Devices Co., has duplicated in four minutes the results of 200 washings of nylon shirting.

Tighter Grip: Indiana Steel Products Co. (Valparaiso, Ind.) will move into commercial production shortly with its recently developed Indox magnet. Composed of iron oxide and barium carbonate ceramic materials, the magnet, declares the firm, is lighter than metal, requires no critical materials, is a nonconductor and has a great deal more adherent force than standard type magnets. It is, avers ISP, the



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RESEARCH.

first new magnetic substance developed since 1931.

Freon Facts: Aerosol manufacturers and refrigeration engineers will take more than routine interest in the results of a two-year research project just completed by the Du Pont Co. Du Pont researchers probed the solubility of Freon-12 and Freon-22 fluorinated hydrocarbons, discovered:

 Solubility of Freons in water is a function of fluorine content.

 Increases in pressure result in nearly proportional increases in solubility.

 For Freons having the same number of carbon atoms, solubility decreases as fluorine content is upped.

• In general, Freons have only limited solubility in water (e.g., 0.026 lbs./gal. of water at 14.7 psi, and 77 F for Freon 22).

Fumigant Hopefuls: A new group of promising fumigant compounds is a dividend of Dow Chemical Co. research. They're fluorinated alicyclic ethers, show relatively low toxicity to warm-blooded animals.

Piperazine Prep: A new route to piperazine and nitrogen-substituted piperazine derivatives has been explored by Stanford University chemists. Crux of the method: catalytic reduction of di-(cyanomethyl) amine and N-substituted derivatives.

Antifungal Results: Schenley Laboratories researchers recently registered new gains in the search for therapeutic antifungus agents. The Schenley workers tested a series of sulphur-containing hydrazine derivatives, uncovered interesting candidates among thiosalicylhydrazides.

 Also in the antifungus fight are scientists of Duke University. The Duke probers report a quartet of experimental fungus fighters that are not handicapped by the presence of blood serum. Furnished by Merck & Co. the four are pentamidine, phenamidine, stilbamidine diisethionate, and propamidine isethionate.

Trailblazers: A pair of new unsaturated secondary amines are Armour Chemical Division's entries in this week's new products derby. The newcomers, produced from tallow and soya raw materials, have been tagged Armeen 2S and Armeen 2T. Vital statistics: both products contain 85% secondary amine, 5% primary amine, have a neutralization equivalent of 520-540; 2T liquefies at 50-55 C, has an iodine value of 35 min.; comparable figures

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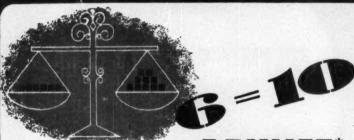
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RESEARCH. . . .

for 2S are 45-50 C and 60 min. According to Armour, the new amines are "the first such products ever to be offered to industry . . . " Pegged at about 40\$\epsilon / \text{lb.}, they're still virtually lacking in commercial applications.

• A more palatable form of P-aminosalicylic acid (PAS) is Squibb's newest offering. Labeled Rezipas, it's an answer to the problem of getting TB sufferers to take their unpleasant tasting PAS pills. The new material contains PAS absorbed on an anion-exchange polyamine resin, is free of bad taste. In the stomach, the PAS is released by hydrochloric acid.

• Monsanto is represented by phenylcyclohexyl hydroperoxide. Put up as a 20% solution in phenylcyclohexane, the neophyte is highly promising as an activator for cold GR-S formulations, will be investigated for its ability to catalyze other polymerizations. Experimental quantities are available from Monsanto's Phosphate Div.

Synergism: U.S. Industrial Chemicals Co. and Iowa State College have joined forces in a research project aimed at shedding light on the mechanism of synergistic insecticidal activity. The study, headed by Iowa State's Paul Dahm, will focus on the pyrethrin-piperonyl butoxide system. Radioactive synergist will serve as prime experimental tool.

Lab Tally: Here's the late score on laboratory expansions:

 Union Carbide and Carbon Corp. has blueprinted plans for a \$4-million physics research building on what is now a 74-acre golf course near Cleveland. Earmarked for Carbide's National Carbon Co., the new facilities must get zoning approval from suburban Bay Village.

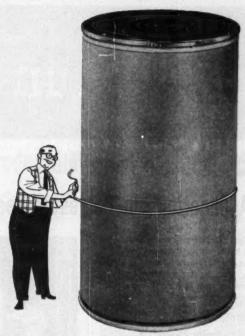
 Jefferson Chemical Co.'s brandnew Austin, Tex., laboratories are now in action. The second major expansion of Jefferson's research facilities, the new laboratories accomodate a

staff of 40.

 United States Rubber Co. has just taken options on a 90-acre tract in Preakness, Wayne Township, N. J., with an eye to constructing a \$4-million research center. U.S. Rubber's plans call for three laboratory buildings to house work currently carried on at the company's Passaic, N.J., laboratories.

 Rhinelander Paper Co. last week took over its new laboratory building.
 A remodeled Soo Line railway station, the building will house the firm's research on pulp, paper and sulfite

liquor products.



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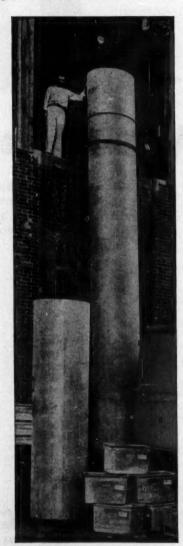
Polyesters Make Large Moldings

The large plating tank illustrated is one of many typical applications of polyester resins reinforced by glass fiber or fabric. These moldings have great strength and good chemical resistance while being extremely light in weight. Among the other successful uses of glass fiber reinforced polyester resins are tank truck bodies for trans-

porting gasoline and chemicals, entire boat hulls, pipe and fittings for use in the chemical process industries, fishing rods, paneling for architectural and decorative uses and many more.

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Of vital importance in the production of polyesters are the alkyds used, and the phthalic anhydride used in the manufacture of the alkyds. AERO Phthalic Anhydride is produced under rigid controls developed by Cyanamid through its years of experience in production, and is a chemical of high purity for use in alkyds and polyesters. Available in the form of white, free flowing flakes or in molten form, it can be relied on for uniform high quality. A new Technical Bulletin on the handling and storage of AERO Phthalic Anhydride-Molten has just been prepared. Use the coupon to request your copy.



A metal plating tank of glass fiber reinforced polyester resin molded by the Chemical Corporation, Springfield, Massachusetts. The tank is 24 ft. deep and 3 ft. in diameter—has excellent thermal and electrical insulating properties while being resistant to many electroplating solutions.

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Manufacturers Chemicals Department American Cyanamid Company

Chemical Newsfront

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The fine particle size and resistance to wetting of the metallic stearates makes them extremely useful as waterproofing agents.

AERO Metallic Stearates are being used to waterproof cement, cement paints, rock wool insulation, textiles, cordage and other materials. For example, calcium or zinc stearate may be blended with ground cement to increase the storage life of dry cement and increase the water resistance of finished concrete. Zinc stearate, dusted into rock wool, forms an adherent surface layer which prevents absorption of moisture. And in the formulation of paints for use on portland cement, the use of calcium or aluminum stearate is specified in "Federal Specification for Paint, Cement-Water, Powder, White and Tints (for Interior and Exterior Use), Designation TT-P-21". All AERO Metallic Stearates are packed in color-coded bags for easy identification.

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The extremely small particle size of Cyanamid Zinc Stearate U.S.P. insures maximum lubrication, per pound of stearate, in dry-blend mixes. Used as a lubricant in powder metallurgy, it improves the flow of metal powder into intricate molds, and increases the density of finished pieces by permitting closer packing of the powder under pressure. It also reduces wear on dies and permits ejection of the finished pieces from the mold without breakage. Cyanamid Zinc Stearate U.S.P. promotes complete burnout of the lubricant from the finished part.



Portland cement paints, incorporating calcium or aluminum stearate, can impart increased water resistance to masonry walls and cellars. Such paints are especially valuable to home and plant owners in high rainfall areas.

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	☐ AERO* Phthalic Anhydride-Molten, Handling and Storage
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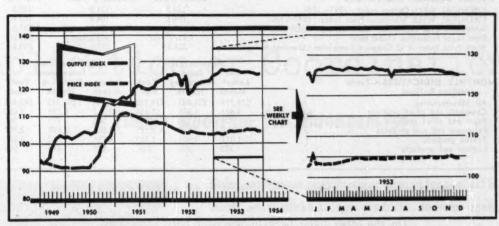
CHEMICAL PROPERTIES

PLASTICIZERS

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COMPAT B LITIES

rints, chlorinated and other ma



CW Index of Chemical Output—Basis: Total Man Hours Worked in Selected Chemical Industries CW Price Index—Basis: Weekly Prices of Sixteen Selected Chemicals

MARKET LETTER

Chemical marketers by this week are ready to close the book on 1953, for inventory-minded consumers are already stepping to the side-line—sales are thin.

The year as a whole has held few surprises for astute observers, wound up about as they had expected. Some buyers and sellers, of course, are bemoaning the vagaries of the market, which at times sagged down prices, slowed chemical movements or, in some instances, tightened a supply/demand situation.

But most industry men by and large are chalking up the year as a 1952-topper, and their outlook for the future reflects an optimistic, commutual starting point: business will likely hold up in 1954.

A slight perking is currently reported in the fertilizer arena. It may be shoulder-shrugging at high-hanging grapes, but some ammonium sulfate producers are showing little concern over issuance of the government awards for furnishing about 140,000 metric tons to Korea (Market Letter, Dec. 12).

Despite the fact that the bulk of the material will not come from domestic sources, sellers here see one bright spot in the situation: they reason that diversion of European ammonium sulfate to Korea eliminates the possibility that this tonnage will plop in the U.S. and further aggravate the market.

But probably contributing more to the modest buoyancy is the pickup noted in deliveries of fertilizer materials to Midwest mixers.

Methanol makers, too, are hopeful regarding the future, though they're casting a somewhat jaundiced eye on the immediate present. Reason: prevalent warm weather has canceled out the usual seasonal jump in antifreeze requirements, while other industrial outlets continue consumption at a fair-to-middling rate.

Result: price schedules something less than firm. Although producers are quoting an official 32¢/gal. (synthetic, tanks), customers in

MARKET LETTER.

WEEKLY BUSINESS INDICATORS	Latest Week	Preceding Week	Year Ago
CHEMICAL WEEK Output Index (1947=100)	124.9	124.9	125.3
CHEMICAL WEEK Wholesale Price Index (1947=100)		104.9	102.4
Bituminous Coal Production (daily average, 1,000 tons)		1,484.0	1,692.0
Steel Ingot Production (1,000 tons)		1,955.0 (act.)	2,236.0
Stock Price Index of 13 Chemical Companies (Standard & Poor's Corp.)		267.0	259.6

	M	anufacture Sales	rs'	N	anufactures Inventories	
MONTHLY INDICATORS—Trade (Million Dollars)	Latest	Preceding Month	Year Ago	Latest	Preceding Month	Year
All Manufacturing	\$24,774	\$24,882	\$24,753	\$46,294	\$46,515	\$43,415
Chemicals and allied products		1,675	1,660	3,232	3,230	3,010
Paper and allied products		783	734	925	935	960
Petroleum and coal products	2,256	2,314	2,181	2,953	2,953	2,777
Textile products		1.003	1,188	2,744	2,802	2,841
Leather and products		300	265	605	614	549

certain areas aren't finding it too difficult to get all they need at 26-28¢.

On the other hand bargain-basement BHC insecticide tags are being altered. Columbia-Southern late last week posted higher carload prices on some grades. New delivered prices figure out to 0.9¢/gamma unit, 15% gamma; an even penny/gamma unit for 36%.

And another reversal of the chemical price escalator: most industrial users of ethylene glycol, diethylene glycol and ethylene oxide may now be paying the lower prices posted last week by two of the major producers. For if other makers haven't yet followed suit, they soon will.

It's no news, of course, that previous schedules have been somewhat unrealistic in relation to market conditions. The cuts average about $2\frac{1}{2}\frac{e}{l}$ lb., and apply to Eastern areas only.

It's a fact, too, that nonmilitary users of titanium won't soon get a crack at a "revolutionary" development by Alloy Precision Casting Co. (Cleveland). The company, which is working on some hush-hush government projects, has come up with—and is using—a neutral ceramic for casting titanium. The new-type mold licks a long-persistent casting bugaboo: it does not contaminate.

Ammonia-urea market watchers are having a field day trying to batten down rumors concerning the nowforming Chillicothe Chemical Manufacturing Co. Here are some facts: the plant will be built by Foster Wheeler Corp. (N.Y.), on a 100-acre tract a mile south of Chillicothe, (Tex.), near two railroads and a good water supply.

Total estimated cost of the plant, which will be privately financed: \$17 million (\$15.5 construction, \$1.5 working capital). Due onstream, 1955. Production will run about 180 tons/day of anhydrous ammonia and 160 tons/day urea. The raw material, some 10 million cu. ft./day of natural gas, will come from the Lone Star Gas Co. of Dallas.

Top fertilizer target, says president-to-be Henry Brandon, will be the lush agricultural market within a 300-mile radius of the installation.

SELECTED CHEMICAL MARKET PRICE CHANGES-Week Ending December 14, 1953

	Change	New Price		Change	New Price
Ethylene glycol, ind., drms., c.l., dlvd. East	\$.025	\$.1625	East Ethylene oxide, tanks Crude cottonseed oil, Valley	.0275 .0265 .0025	.1575 .1635 .12625

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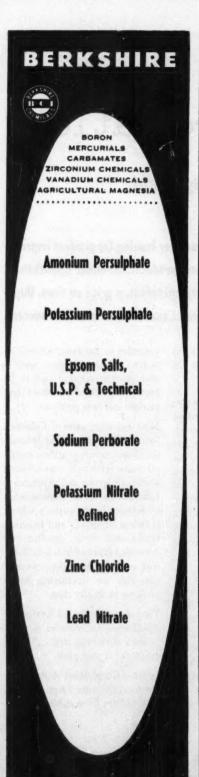
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MARKETS

The Big Squeeze

The second round of ammonia expansions draws to a close, and producers now fear a sated market by early 1955.

The long-range picture, however, looks brighter: farm and industrial demands show a healthy growth trend, promise market-tightening by 1958.

Meanwhile, coke-oven output is fading fast percentagewise as synthetic ammonia snares a greater share.

Ammonia capacity, already close to 2.5 million tons/year, easily figures to move beyond the 3 million tons/year mark by 1955, to create a surplus

that won't be taken up for an additional two or three years. The reasons: oversubscription to government-called-for expansion, drop off in mili-

CW ROUNDUP:

Company	Location
Allied	
***************************************	Hopewell, Va
	La Platte, Neb.
	South Point, O
American Cyanamid	South Point, O
Brea Chemical	
Chillicothe Chemical	
Columbia-Southern Chemical	
Commercial Solvents	Sterlington, La
	Sterlington, La
Cooperative Farm Chemical	Lawrence, Kan.
	Pryor, Okla
	Pittsburgh, Calif
	Freeport, Tex
Du Pont	
ou Pont	
	Niagara Falls, N. Y
Jrace	Memphis, Tenn
dercules	
Hooker Chemical	
	Tacoma, Wash
Lion Oil	El Dorado, Ark
	Luling, La
Mathieson	Lake Charles, La
	Lake Charles, La
	Morgantown, W. Va
	Niagara Falls, N. Y
Midland Chemical	Midland, Mich.
Mississippi Chemical	Yazoo City, Miss
	Yazoo City, Miss
National Distillers	Tuscola, Ill
Northern Chemical Industries.	Sears Port, Me
Pennsalt	
	Wyandotte, Mich
Pacific Chemical	
Phillips Chemical	Etter, Tex
	Houston, Tex
Salt Lake City Chemical	Salt Lake City, Utah
San Jacinto Chemical	
•	San Jacinto, Tex
Shell Chemical	Pittsburgh, Calif
onen Chemical	
Spencer	Ventura, Calif
spencer	
	W. Henderson, Ky
mara	Vicksburg, Miss
TVA	
Utah Chemical	

AL —Air Liquide FNRL —Fixed Nitrogen Research Laboratory
AL-C —Air Liquide-Casale MMC —Modified Mt. Cenis
AL-C —Air Liquide-Casale-Du Pont
AL-H —Air Liquide-Hercules TVA —Tennessee Valley Authority
ANC —Atmospheric Nitrogen Corp.

X —Undecided

MARKETS.

tary demand, high imports, drought, and crop controls.

War-Born: Just before the onset of World War II, U.S. ammonia production dawdled along at a 480,000 tons/year pace. Synthetic output was about double coke-oven production. With the war came the first round of expansion since the start of the synthetic ammonia industry in 1921. Roughly designated, this growth period was from 1942-45.

As a result, by 1950, capacity had shot up nearly 500%. In line with the continuing postwar prosperity and high export take, domestic production continued to climb. Fertilizer con-

sumption clipped along near a million tons/year; industrial demand, near 500,000 tons/year. Synthetic ammonia now outstripped its coke-oven counterpart almost seven to one.

Then came Korea, supplying the impetus for a second round of ammonia expansion (see table). Established producers enlarged or built anew; others entered the field for the first time. Yet to spend itself, this growth period can be loosely identified with the years 1952-55, but actually, most of these plans became working realities this year; Shell (Ventura) and Phillips (Houston), possibly this week.

U.S. SYNTHETIC AMMONIA CAPACITY

Estimated Capacity (NH, short tons/day)

In Place	Under Way	Under Consideration	Process	Hydrogen Source	Onstream
840	1000		ANC	cwg	1928
150	***	***	ANC	ng	1953
777	214	***	ANC		1954
630		***	ANC	ng	1943
	***	***	ANC	cwg	1953
150	***	***		ng	
111	300	***	NEC	ng	1954
* * *	100	6 0:0	HR	prg	1954
	200	111	MMC	ng	1954
	***	180	Casale	ng	1955
111	***	100	NEC	bp	1955
200		***	Kellogg	ng	1943
200		***	Kellogg	ng	1953
	150		Casale	ng	1954
***	180	***	Casale	ng	1954
21	***	***	NEC	bp	1927
104			ANC	bp	1950
640			AL-C	cwg	1926
30			FNRL	bp	1926
	250	***	Casale	ng	1954
80		***	AL-H	prg	1940
40		***	NEC	bp	1952
	20		NEC	bp	1954
570		•••	NEC	ng	1943
	300		NEC	ng	1954
250		***	Kellogg	ng	1944
60		***	NEC	bp	1953
570	***	***	AL-C-D		1941
20	***	***	NEC	cwg	1926
		***		bp	
45	***	***	FNRL	pb	1930
120	*::	***	AL	ng	1951
***	60		AL	ng	1953
***	150	111	Kellogg	bpe	1955
***		150	Texaco	co	1955
40			Mt. Cenis	bp	1932
***	55	***	Casale	bp	1953
	***	100	X	ng	X
500			NEC	ng	1945
	450		NEC	ng	1953
		180	Texaco	ng	1955
80		***	AL-H	ng	1950
	40	***	AL-H	ng	1954
270			Mt. Cenis	ng	1931
	150		Kellogg	ng	1953
540		THE PARTY	NEC	ng	1943
200			ANC	ng	1942
	200	***	ANC	ng	1953
260		***	TVA		1942
	***	270	X	ng	
***	***	270	•	ng	1955

bp —by-product hydrogen from chlorine cells

bpe-by-product hydrogen from ethylene manufacture

cwg-coke water gas

ng —natural gas

prg -petroleum refinery gas

co -crude oil



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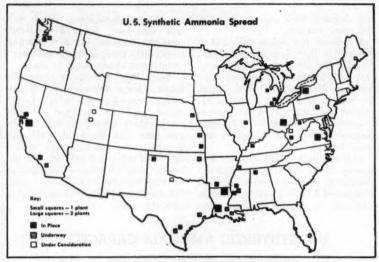
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MARKETS.



SYNTHETIC AMMONIA PLANTS: Harvesting time for the new crop.

And the next 12 to 15 months will witness the arrival of nearly another million tons/year of new ammonia capacity. Northern Chemical Industries is expected momentarily to disclose plans for a 50,000 tons/year unit at Sears Port (Me.) This will be the first domestic ammonia move dictated more by market location than by raw material availability, the second ammonia unit to use a crude-oil hydrogen source.*

Also expected shortly is word from Utah Chemical on the Mar. '54 ground-breaking for its new ammonia works purportedly to be built in conjunction with Monsanto Chemical. Marking its initial entry into ammonia production, the St. Louis firm, says Vice-Pres. J. G. Christian, is interested in production of ammonium phosphate and "three other main items," has 12 research men and engineers currently working on plans for the Utah plant.

The remaining plants (see table), to be completed by 1955, will bring this second round of expansions to a close, help boost synthetic toward its expected 17-to-1 advantage over coke-oven ammonia by 1975. Hindered by its close tie-in with the steel industry, by-product ammonia output continues to fall relatively farther behind in its race with the synthetic.

* The first was Montecatini's 7,000 tons/year plant in Italy.

Anxiety Torn: Any third-round expansion before 1960 seems unlikely. The U.S. is still the largest nitrogen producing and consuming nation in the world, but we've overdone it this time, declare market observers, and will feel the big squeeze by 1955. The U.S. is top-heavy with producers and imports.

Fertilizer, the biggest ammonia consumer by far, is being hit the hardest. Reflecting the uncertainty of the times, farmers are nervous, are tightening up on expenditures. Once reluctantly half-sold on the advantages of year-round fertilizer buying, they've returned to their old habit of seasonal purchasing, causing industry to idle production because of storage difficulties. Other factors affecting the fertilizer market:

· Hesitancy of cattle men to keep up pasturage in the face of dropping prices.

 Absence of fertilizer-carrying ground water in many areas because of drought.

· Less land available for fertilization as a result of acreage corp con-

Too, military needs have dropped off rather suddenly-to about 200,-000 tons/year from an estimated wartime peak of 500,000 tons/year. Always an elusive factor, military consumption could rocket ammonia de-

Ammonia Output & Use

	(thousand tons) 1939	1949	1953 (est.)
Coke oven	169	212	265
Synthetic	311	1,544	2,258
Total production	480	1,756	2,523
Consumption			
Agriculture	4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	69%	72%
Industry*	CONTRACT TO A STATE OF	31%	28%
* Includes military demand.			

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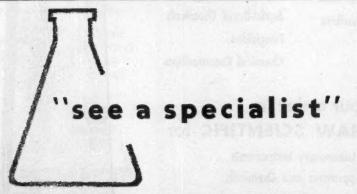
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44 STRATEGICALLY LOCATED WAREHOUSES

MARKETS.

mand skyward. Most producers aren't counting on it, though.

Gray Forms: But the picture isn't entirely black. Declares Shell Chemical: "We wouldn't have built unless we thought we had a market." Similar sentiments are echoed by other Western producers. Their tenor is generally optimistic, in most cases underpinned by a fast developing Hawaiian market (see p. 48).

Also, most producers feel the farmer has learned well his lesson of greater yield through higher fertilizer application, believe this will offset any cutback in tillable land.

Others point to fertilizer's spiraling 100,000-150,000 tons/year growth rate, figure it will take up capacity slack within five years at the most. And industrial consumption, predict observers, though dropping off percentagewise (see table, Ammonia Output), will also move upward in 25,000-50,000 ton/year jumps.

Actually, the present outlook is anything but gloomy. Experts peg current demand at a bright 2.5 million tons/year, figure agriculture for 1,800,000 tons, industry for 500,000 tons, and the military for 100,000-200,000 tons. Farm use will be mostly in the form of anhydrous and aqua ammonia, the nitrate, sulfate and phosphate salts, and ammonia (including urea) solutions. Military flow will be directed primarily into explosives and propellants. Industrial application, on the other hand, will be more varied:

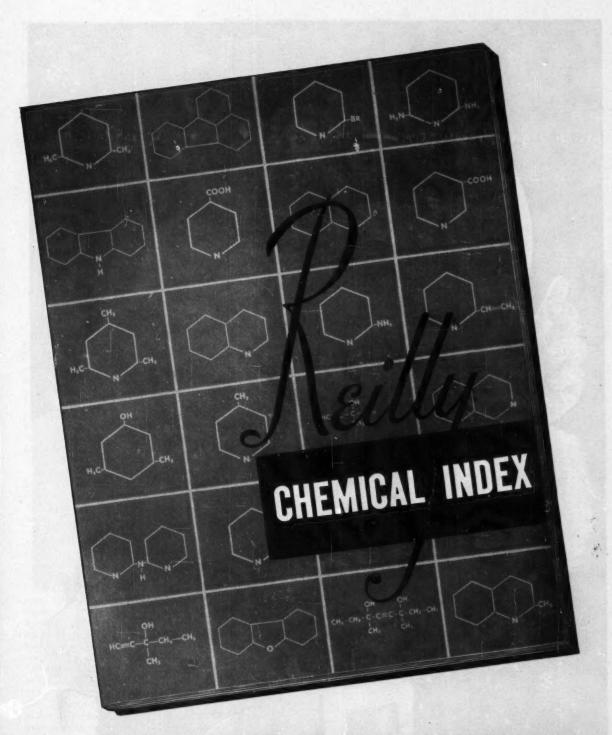
Ammonia Industrial End Use Pattern

1000 (cst.)	
Industrial explosives	26%
Chemicals	26%
Plastics and synthetic resins	11%
Textiles	10%
Metal treating	6%
Refrigeration	5%
Petroleum refining	3%
Pulp and paper	3%
Misc.	10%

Future Norms: Agreed that ammonia capacity has generally overreached itself and will feel a squeeze by 1955, industry observers find no reason why the demand spiral should unwind, foresee a market-firming by 1958, perhaps another expansion spree two years or so later.

Certain compounds and areas will feel the pressure more than others, of course. Ammonium sulfate is fairly sure to be in overabundance, but anhydrous ammonia might well experience spot shortages. And by the same token, the Southeast will probably feel the squeeze more than the West Coast.

But taken by and large, it's an



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MARKETS.

optimistic outlook. Ammonia, still showing a steady growth, could be like any other healthy adolescent—still a long way from maturity.

Military Aid

WASHINGTON-If a significant part of your chemical production goes to defense end use items, you can expect the military to have a much finer yardstick to use in placing its orders.

A list of the 1,000 most important military items just submitted to Defense Mobilizer Arthur Flemming by the Dept. of Defense is scheduled to be broken down into its component requirements. Aluminum, copper and steel needs will be pinpointed by Jan. 1; chemicals and other strategic materials, by March 1. List is top-secret.

Defense Mobilizer Flemming's request for some aids to mobilization planning has just brought from the Defense Dept. a classified compilation of 1,000 of the most important military needs. Intended to ease the pressure on military planners and civilian suppliers in the event of war, the list will be further broken down into specific metal, chemical, and other strategic material requirements.

The Defense Dept. spends about \$3.6 billion/month on thousands of different items. Actually, 1,000 of these make up over 75% of the dollar total.

The breakdown into more specific requirements is a natural outgrowth, an additional aid in mobilization. As witness: Army planners, for instance, might want to figure their total fulminate requirements for an all-out war. They consult the list, note that there are perhaps 300 different fulminate-containing items, one of which might be fulminate primers for artillery shells. Deciding that they will want 5,000 shells, they take certain factors, multiply by 5,000 and arrive at the total fulminate they will need. Similarly, they work through the other 299 fulminate-containing items, and it thus becomes possible to make an over-all estimate with a good deal more accuracy than now.

Then, assuming that war arrives and there is a fulminate shortage, it makes it a good deal easier for government mobilizers to arrive at an allocation policy that is fair, doesn't over- or underestimate the amount of fulminate needed, and, consequently, facilitates the suppliers' task in satisfying his civilian marker

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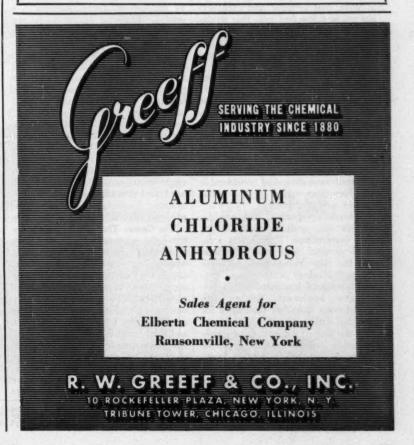
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SPECIALTIES

Chemistry in Aviation: The Sky's No Limit

Just 50 years ago this week, one of the proudest events in America's history took place: on the chill morning of December 17, 1903, Orville Wright nursed a heavier-than-air craft into flight for the first time in the world. In the 50 years since that flight, aviation has made fabulous progress. And a partner in every step has been the chemical industry.

Admittedly, chemistry didn't help much on those early flights where the Wright brothers had virtually nothing but the wires, wood and will. Petrochemists had hardly begun improving fuel—the crude gasoline of the time was largely straight-run casing-head gasoline. Specific gravity was regarded as the best index of fuel quality. Though octane ratings were undreamed of then, authorities estimate the Wrights probably used fuel of perhaps 40, and certainly not more than 60 octane.

Until World War I, automobile gasoline (motor gasoline) and aviation gasoline were the same. Gradually, experience showed that gasoline from California and Venezuela crudes gave better performance; that cracked gas, with high olefin percentages, tended to gum; that benzene and cyclohexane made a fine fuel mix; that straining gasoline through a chamois was an advisable practice to avoid water in fuel; and that sulfur in gasoline should be avoided.

Matter of Refinement: The same lubes employed by early automobilists were used by the first flyers. Straight mineral types were reasonably satisfactory—the engines were low-rpm jobs, without high compression ratios. Pennsylvania crudes supplied the best oils in those days, and the oil was seldom more than acid-treated. Plenty of carbon formation—and considerable wax formation—added to the problems of early birdmen.

Airframe construction, too, was dependent on products available for other construction. Spruce was a favored material (and still is), glued with the slow-drying, moisture-sensitive animal glues of the time. Propellers were of laminated (with animal glue) hardwoods, finished with natural resin varnishes developed for other industries.

By the time of the war, dangerously flammable cellulose nitrate dopes of extremely low solids content were used to tauten and seal the muslin and linen wing coverings. (Few fuse-lages were even covered.) Methods of construction make it plain why furniture factories were indispensable in wartime aircraft manufacture.

Long-Lived Liberty: The war brought with it a greater interest in aviation, improved planes, and superior engines. Famous, war-fostered Liberty engines, however, were designed to function on "fighting-grade" avgas that would be evaluated today as 50-60 octane.

It's fortunate that they were, for in the 11 years after the war, during which Liberties powered a variety of craft, average octane number of aviation fuels was 65-70. More attention, however, was paid to corrosiveness, stability, sulfur content, and the like.

Octane rating was adopted in 1929 (after some 5 years' extensive study). Straight-run gasoline from West Coast crudes was fortified with benzene for antiknock qualities, and by that time the value of 2-3 cc. of tetraethyl lead in making antiknock gasoline was proved. Ethylene dibromide, to prevent formation of lead oxide, was stirred in, too.

The chemist began lending a greater hand in aircraft construction, also. There was increasing attention paid to a plywood fabrication. Wood laminated with casein and blood-albumin glues (introduced in 1916-17) was widely used on airline workhorses like the Fokker trimotor (see cut) and Lockheed Vega, and a number of spectacular racing planes.

But the glues weren't all they might have been. Dry rot sometimes weakened structures, and construction utilizing laminated wing spars and plywood wing skins fell into disrepute.

Tin Geese: The metal chemist entered the picture more in the '20s, developing special engine alloys, working out manufacturing techniques for jacketing strong aluminum, called alcladding. The Ford-produced trimotors, with tubular steel body frames covered with corrugated aluminum, and thick, internally braced aluminum wings, became familiar sights. Some of these "tin geese" are still flying.

Plastics next edged into the picture. Cellulose nitrate and acetate were used for transparent closures where

*Purity and nongumming characteristics were obviously sufficient—Lindbergh's 33-hour nonstop flight to Paris was made with fuel of this quality. heavy plate glass couldn't be used. Ebonite (hard rubber) was not uncommon and phenolics were being used for control knobs, and for impregnating control - cable pulley wheels.

The aviation boom (a surge of public recognition and interest, rather than an industrywide era of profits) touched off by Lindbergh's flight was a prelude to the giant technological and engineering steps taken by aviation in the next few years.

Troubled as the '30's proved to be, they were 10 years of previously unmatched progress for aviation. As an example of the relatively slow progress in the '20s, a late-World-Warpursuit plane could reach 120-125 mph. By 1930, a standard U. S. pursuit could do only 160. But by the end of the '30s, pursuits could attain 360 mph., and models that were later modified to reach 450-500 were in service. Much of this improvement is owed to chemistry.

Improvement in fuel continued. Benzol additions were put at 20% maximum (because of its high freezing point) and certain restrictions were placed on the amount of treated cracked gasoline allowed in blends. By 1938 there were about 14 different avgas specifications. It was a confusing situation soon alleviated by adoption of five standard grades. One-hundred-octane fuel was a requisite for military craft by 1938

for military craft by 1938.

Research had shown the value of branched-chain and aromatic hydrocarbons in producing antiknock fuels. And with this came new knowledge of production—catalytic cracking, hydroforming, polyforming, and naphtha isomerization. These methods were initially expensive, but they provided the only methods of making gasoline in amounts demanded by the looming war.

Power Permit: Viscosity improvers, pour point depressants, corrosion inhibitors and similar additives were vital constituents of the oils and greases that allowed higher horse-power engines, and higher operational altitudes.

Though radial (where cylinders are arranged spoke-like around a shaft) engines were in the ascendancy, in this country, at least, commercial development of a coolant permitted design of liquid-cooled engines that matched them in performance. Ethylene glycol, which permits

engines to operate at higher, more efficient temperatures than does water, and which allows smaller, more streamlined radiators, was essential to the development of the war-famous Allison engine.

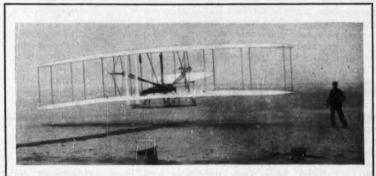
Metallurgists' aid to aircraft engines manufacture can only be touched upon—but essentially the same engines that produced 575 hp. in the early '30s were snorting out 1,100 hp. by 1940. Metal science was responsible, too, for improved landing gear. The air-oil shock struts of the '30s would not have been possible without high-strength alloys—and much of the boosted performance of aircraft can be attributed to the relatively lightweight retractable undercarriage.

Close the Cabin: Planes were becoming more streamlined—and the day of the open cockpit—for other than private planes—was virtually at an end. Plate glass was still a favored material, but the acrylics were finding increasing use in cabin closures—and in transparent, streamlined fairings for lights—by the late '30s.

The period that brought an end to the '30s and the beginning of another world conflict started an era of major change in aircraft design, manufac-

ture, and performance.

In fuels, it saw the day when octane number was no longer enough—when a term called "performance number" (PN) had to be employed for the potent blends of hydrocarbons demanded by 2,000 hp engines. Trip"Performance number is, simply, a way of expressing how much better than 100-octane a certain fuel is. A 115/145 fuel, for example, gives 1.45 times the performance at optimum conditions that 100-octane would, and 1.15 times the performance in a lean mixture.







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tane and other components of these high-grade fuels made heavy demands on the oil industry—demands the petroleum firms met.

But in doing so, production facilities swung away from other oil components like kerosene, which was gulped in giant quantities by the jet engines born of the war years. Jet engines fuel production—and continued output of high-PN fuels—has imposed a peculiar strain on the industry.

Jet- and piston-powered, most aircraft during the war were all-metal. Wooden planes, nevertheless, found their way back to the fronts, and not merely because they were made of noncritical materials.

New and Glued: Improved glues and glueing techniques introduced in this country in the mid '30s permitted construction of first-line fighter-bombers like the De Haviland Mosquito. Its plywood wings crossed nearly every battle line in Europe. The Mosquito was British-designed; in this country at least one fast-climbing, lightweight fighter was produced. Even the furniture factories got into the fight again, turning out cargo planes like the Curtiss Caravan and assault gliders. The Navy's Mars flying boats had plywood components.

And plastics began to assume an importance they have not relinquished. Laminated paper wingtips, plastic bomb bay doors, coverings, control surfaces, nose sections, leading edges, flooring—the list of plastics uses is almost endless. Special rubbers, like oil-resistant neoprene (introduced in the mid-'30s) and temperature-shrugging silicones are essential parts of the high-altitude aircraft. Specially formulated lubricants and hydraulic fluids allowed operation under extremes of heat and cold.

Polyethylene and fluorinated plastics were used in electrical equipment designed to function under the most adverse conditions of operation and maintenance.

Though not used for military application in this country, resin-impregnated wood propellers were widely used by our Allies, and "compreg" units were employed in aircraft construction. In commercial planes, plastic upholstery material and carpeting were in common use.

Hot and Tough: Refinements in metals, and new alloys, continued to appear. Jet engines, with their need for high-strength, high-temperature alloys, opened new eras of technology. Perfected during the war were welding techniques that permitted high-speed fabrication of metals previously unweldable—an example is welding

aluminum under a helium stream.

Humble carbon dioxide found boosted use in self-inflating life rafts, and, more vitally, as part of the plane's automatic fire-extinguishing systems that could douse a flaming engine in flight. On the ground, too, carbon dioxide foams, as well as other types of fire-fighting foams, came into use.

Cooling Off: Though the fires of war were banked in '45, the high pitch of aircraft development wasn't slowed. Since then jet craft have received the most concentrated research, but improvement can be noted in all types of planes.

Military demand for top-grade fuels has continued, though not at the pitch of wartime. Commercial transports, using the same engines that power our largest piston-engined bombers, require high-PN avgas. Private flyers, too, now have better engines—engines which function best on higher octane fuels. Additives like tricresyl phosphate find considerable use in specialized craft like helicopters, and have been tried out by airlines.

Jet engines, which will burn almost any light fuel, work best on top-quality kerosene—storage stability and purity must be high. There are vastly improved lubricants for jet engines. In early years of jets, use of standard light oils was feasible, but higher bearing loads and temperatures have demanded better lubes. Only this spring, synthetic oils designed to operate on turbine bearings at temperatures as high as 450 F—and still flow at —65 F temperature—were introduced.

And not to be overlooked are the rocket fuels developed for JATO emergency power units, and used to push experimental craft through the sonic barrier.

In construction, new technology has utilized both plywood and metal fabrication arts. An example is the use of an organic adhesive for fabricating metal aircraft components. Redux bonding, a vinyl-based adhesive system, is employed in the manufacture of Britain's jet airliner, the Comet, and in American naval fighters like the Vought Cutlass (see cut).

Cellulose nitrate coatings—related to the old "dopes"—have found continued use. For protective purposes, they are applied over primers of zinc chromate or vinyl butyrate. But they get increasing competition from alkyd finishes and from cellulose acetate butyrate coatings. With magnesium, a liberally employed metal now, such finishes are vital. Hot spray methods of application are becoming more common.

Vinyl Overcoat: Strippable vinyl coatings—not only to "mothball" planes but also to protect alclad during manufacture—are frequently employed. They can be left on after manufacture at least while the plane is in shipment, until the ship is ready for service.

New materials for construction of jet engines have been the metal-ceramic products called cermets or ceramels. They are designed particularly for such high-temperature units as the afterburners of jet engines. Titanium, used for the engine nacelles of the 365 mph-cruising Douglas DC-7 (see cover), has attracted wide interest. Indeed, demand for this lightweight metal far outstrips production, and scarcity is the only barrier preventing wider use in airplanes.

More and more aircraft components are made of plastics. Glass fiber-reinforced polyester resins look particularly bright—it's estimated that \$25 million worth of this sort of plastic will be used this year.

Plastics have made a particularly heavy impact in the transport aircraft field. Typical are cellular soundproofing materials, cabin air ducting, and baggage racks—all of plastic. Interior paneling and trim, reading light housings, and inner windowpanes are other applications. Plastic dinnerware is lightweight, durable, easy to handle.

Synthetic fibers have invaded the airliners. Planes are a lot more plushy nowadays than they were in the day of the Fokkers and Tin Geese—and part of the plush is synthetic. Interiors now are a far cry from those cheerless cabins with their wicker seats and carpetless floors.

Spie and Span: A vital part of keeping aircraft in best shape is keeping it clean. Both military and civilian planes require cleaners, degreasers, and solvents. Another maintenance specialty is the dye penetrant system for detecting flaws in metal components. And every year Airlines put plenty on the line for rug and upholstery cleaners, disinfectants, waxes and polishes (waxes are used both inside and out), deodorants, and similar specialty items.

In building planes, in flying and maintaining them, chemistry has played a vital role. The past half-century has shown the importance of the chemical industry to flying—and aviation in the future will demand its help even more.

*Airplanes haven't always been noted for speed. The first Wright flyer did 852 feet in 59 seconds, which slide rules out to 9.85 mph. But that's only ground speed—the craft flew into 20.25 mph. headwinds.



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CSMA: '54, 40, and Fight

What 1954 holds for the businessman is hard to tell-but chemical specialties makers, at least, are looking ahead with plenty of confidence and fight. That's the way it sounded at the 40th birthday meeting of the Chemical Specialties Manufacturers Assn., in Washington's Mayflower hotel last week, where some 700 specialties makers got together.

Mel Fuld, Fuld Bros., Inc. (Baltimore), newly elected president of the CSMA, voiced the conviction that there'll be plenty of new products, and plenty of opportunities to get new customers and open new mar-

kets in 1954.

Among the most optimistic of the CSMA's six divisions was the aerosol group. With the reassuring charts and graphs of Du Pont's 1953 survey of the aerosol market, aerosolers hopefully contemplated the profits that glass pressure-spray containers may bring them. Both the Wheaton glass system (CW, May 23) and the Canco-Zonite (CW, Jan. 31) ultra-low-pressure systems appear to have packer appeal. Cosmetics in particular seem slated for the bottles.

Even if a packer doesn't want to try the glass units, Stepan Chemical Co. (Chicago) figures it has solved the problem of corrosive detergents offers its triethanolamine lauryl sulfate product, inhibited with a patentpending compound, for firms that want to stick with metal cans.

Kudos: The CSMA honored Frederick LaForge and Milton Schecter at its Tuesday luncheon. These two, who developed the synthetic insecticide allethrin, received scrolls from the specialties makers, whose products have made considerable use of the bug killer.

Also in for an award was Can-Spray, an aerosol-packaged disinfectant and deodorant produced by Henderize, Inc. (Sacramento). It was rated as the top unit in the second annual aerosol festival.

The CSMA continued its emphasis on the need for waxing vinyl floors. The association has taken up strongly the cudgel for makers of floor polish the report given this year by Foster D. Snell's laboratories added to the

Other winners in the festival were Bridgeport Brass Co.'s Bug Bomb, and Thompson
Chemical Corp.'s Bug Fix; Zonite Products
Corp.'s Larvex and Fuller Brash Co.'s Moth
Proofer; Windsor Chemical Labs' Tropic Air,
Rex Research Corp.'s Rex Pine Deciorant;
Illinois Bronze Powder Co.'s Spray-O-Namel
and Bridgeport Brass' Brasco; Tru-Pine Co.'s
Sprayway; Sterling Drug Co.'s Mollé and
Helena Rubinstein's Cologne Foam; Wilco
Co.'s Snow White Christmas Snow, and Bostwick Lab.'s Hero.

data presented at the spring CSMA meeting in New York. Not as much a contrast as it sounds, the waxes and floor finishes division also attended closely a report on the formulation of floor wax removers. The removers may be one of the up-and-coming products for these specialties makers.

In addition to putting Fuld at the helm, the CSMA elected E. G. Klarmann, Lehn & Fink Products (Bloomfield, N. J.) as first vice-president;



CSMA'S FULD: For specialties makers, the future's what you make it.

H. E. Peterson, Continental Filling Corp. (Danville, Ill.) second vice-president; P. C. Reilly, Reilly Tar & Chemical Corp. (Indianapolis), treasurer; and H. W. Hamilton, secretary. The new board of governors members are D. J. Templeton, Stanley Home Products Co. (Easthampton, Mass.); T. B. Welch, Gulf Oil Corp., and C. L. Weirich, C. B. Dolge Co. (Westport, Conn.), the retiring president of CSMA.

Renewable Repellents: American resizous Chemicals Corp. (Peabody, Mass.) has introduced two renewable water repellents, Arccopel DC-2 and DC-3, designed for the dry cleaning and laundry industries. Available in Stoddard solvent as DC-2 and in perchlorethylene as DC-3, they are blends of waxes, textile resins and organic, heavy-metal compounds. Samples can be obtained on request.

New Trademark: The U.S. Patent Office has just granted the trademark Tetrine to Glyco Products Co., Inc., Brooklyn, N.Y. The name covers ethyl-

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SPECIALTIES. .

enediamine tetraacetic acid and its salts as sequestering, chelating and complexing agents that are used to bind and "remove" polyvalent interfering ions.

British Pesticide: Plant Protection, Ltd., an Imperial Chemical Industries subsidiary, has developed an insecti-cide said to protect brassica crops against flea beetles. Called Gammasan, it is applied to seeds of such brassica crops as cabbage, turnips and kale before planting.

Concrete Coating: Sapolin Paints, Inc. (New York, N.Y.) now manufactures a waterproof enamel that, the company claims, provides all-weather protection for concrete and masonry surfaces. It is dubbed Stone-Dri, is made with a 100% rubber base.

Louisiana Company: The Odell Chemical Co., which plans to make protein supplement feed from molasses and anhydrous ammonia, has filed articles of incorporation in Louisiana.

Detergent Complaints: While detergents are helping housewives, they aren't making everybody happy:

· "A strange white bubbly substance" recently stretched from shore to shore in the Ohio River at Wheeling, W. Va. A chemist at the Wheeling filtration plant made an analysis and came up with evidence that the river contained 32 lbs. of detergent to each million gallons of water.

· Last month, drinking water in Omaha, Neb., had an oily taste-the result of oil that had poured into the Missouri River from a pipeline break upstream from Omaha. But, according to city officials, there wouldn't have been any bad taste if detergents weren't so popular with housewives in Sioux City, Ia., which is also upstream. They figured out that the detergents had mixed with the oil, causing it to emulsify. If the oil had floated on top, Omaha drinking water would not have been affected, for pumping station intakes are on the river bottom.

Washington Company: Tremblay Chemical Co. has been incorporated at Spokane, Wash., with a capitalization of \$25,000. It will make cosmetic products.

Product for Ponds: Fine Organics' (New York) industrial division has introduced "Cifon, N. Y." for ridding ponds and pools of aquatic plants.

Conference: A conference on use and effectiveness of fertilizers, herbicides and insecticides will be held at Texas Technological College, Jan. 13-14, at Abilene.



LONG KNOWN for its high purity, Baker & Adamson Potassium Acetate is now available in a special new spray-dried form which has improved physical characteristics.

EXTENSIVE SPRAY-DRYING FACILITIES have been recently installed at Baker & Adamson Works in Marcus Hook, Pa., for the production of this and many other B&A Fine Chemicals. They result in a Potassium Acetate of superior quality and maximum uniformity of particle size, answering the most exacting process requirements.

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PERHAPS YOU, TOO, CAN use high purity Potassium Acetate to advantage. You can be sure of the quality . . . sure of the source . . . when you specify B&A. For samples, further information, or immediate shipments, write or phone the nearest B&A office listed below.

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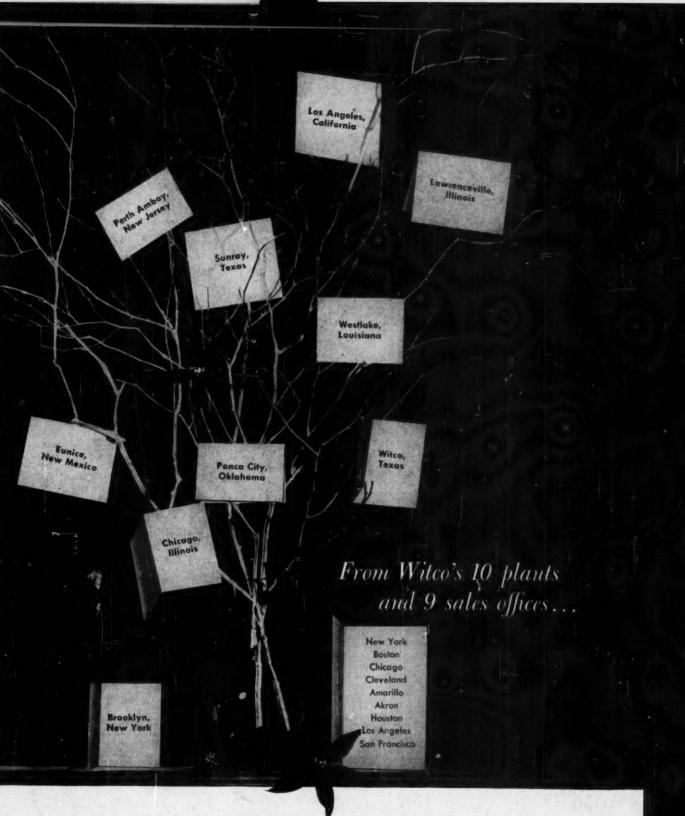
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